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COURSE OF LECTURES
ON THE
ANATOMY, PHYSIOLOGY, AND DISEASES
OF
THE EAR.

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DELIVERED AT THE
WEBB-STREET SCHOOL OF MEDICINE,
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Arranged and Reported from Notes

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LECTURE II.

GENTLEMEN:—You have now been informed that *sensation*, physiologically, signifies the conveyance to the sensorium of a certain change induced in the substance of the nerves. Since these impressions, from the first moment of existence to the most protracted age, are being almost constantly excited, it is very certain that the mind, under such continued excitement, must be much influenced in its early formation and subsequent growth: hence the mind receives materials for thought through the media of the senses. In regard to the speculation into the state in which the mind exists, antecedently to the operations of the senses, it forms no part of our duty to inquire; but within a certain limit it is certain that animals must be effected by the sensations conveyed by the senses as man is, differing from the latter in the absence of a capacity to combine and arrange such perceptions into compound ideas. Those who are extensively engaged in eye and ear practice, have frequent occasion to remark the influence of the senses over the intelligence and development of mind; how the sphere of one's communication with the world is circumscribed when the loss of sight is congenital, and how lamentable is the condition of the person upon whom disease or malformation has entailed deafness from infancy! You will appreciate adequately the value of the sense of hearing, when you remember its necessity for the acquisition of articulate speech. If, therefore, the inlets of the senses were obliterated from the first, it is certain, from the example of many cases, that the mind would continue dormant, like a seed buried deeply in some ungenial soil, and removed from circumstances necessary to its germination. The development and activity of mind consequently are as much the result of external circumstances, as the life of the body is dependent upon the operation of agents suited for its nutrition. If you invert the process by which we arrived at the conclusion, that the mind owes its enlarged capacity to the senses as media of communication between it and material nature, you will readily make out the greater extent to which the mind may reciprocally influence the activity of the senses.

The faculty by which the mind is capable of abstracting itself from every other subject-matter of thought, and of concentrating its energies upon some one element, or detached object, is commonly known as the power of *attention*. Your own knowledge will immediately supply you with evidence enough of the importance of this attribute of the mind to our intellectual and physical well-being: estimate it as a simple act of "apprehension" or "understanding," and you will, in your own case, find that *attention* is the primary requisite for the successful acquirement of knowledge; its control over the functions of the senses is much more palpable and influential. When the mind is enwrapped in some profound meditation, or in deep abstraction, working its way through the complications of an abstruse mathematical problem, a loud noise will not have the effect of disturbing its reverie, nor will any object brought before the eyes be perceived; and this observation applies with equal force to the other senses. In surveying the beauties of a scene in nature, the eye gazes upon the collective whole, and the mind seeks not to address itself to any individual object; but by "attention" it may separately investigate some one point, or discern something in the distance which, in the absence of attention, passed unseen. The ear, in its functions, afford us more interesting examples of this singular faculty of the mind. A person may *listen* with steadfast intentness to a piece of com-

pound music, or the extensive combination of tones produced by the various instruments in a large orchestra, without having the mind engaged with any one of the tones to the exclusion of the others; and, on the other hand, may isolate some one tone from the others, and pursue it through all its individual variations. The *mode* in which the attention operates to augment the activity of the various senses, appears to differ with the principle of construction evinced in each. In the eye an action is at once determined, by which its refractive media, pupillary aperture, and the distance of the retina from the lens, are accurately adapted to the appreciation of the magnitude and distance of the object presenting in the field.

In the ear, *intrinsic* muscles at once adjust with delicacy the various parts, the membrane of the tympanum, the ossicula, and the fenestræ, into concert-pitch with the vibrations affecting the organ from without. In the lower animals the extrinsic muscles rapidly and accurately regulate the positions of the external ear, and form beautiful illustrations of the provisions made for the perfection of instinctive endowments.

In the sense of *smell*, energy and acuteness is given to the function, by rapid and sharp inspirations, the expansion of the nostrils, and the consequent tension of the mucous membrane, by the little muscles attached to the cartilaginous alæ of the nose. Fishes, however, have the posterior nares closed; they are, therefore, an exception to the rule.

In the organ of *taste*, likewise, the physical conditions necessary for the perception of sapid materials are strikingly improved by the special direction of the mind to the qualities of the substance tasted. The papillæ, by which the surface of the tongue is numerously studded, are thrown into a state of erection, and become turgescent with blood; and the quantity likewise of saliva—an important condition—is considerably increased.

In reference to the sense of *touch*, the *tactus eruditus*, of which I spoke to you in my last lecture, is sufficient, as a proof of what may be accomplished by its assistance when trained by *attention*.

It is by this sort of contrastive illustration that the interest which attaches to the operations of this useful characteristic of mind is fully developed.

Nor can we dismiss this subject without making cursory allusion to that law of interdependance, universal in its application, in virtue of whose constant workings every system of organs, and every aliquot structure in the organic whole, is made to diffuse throughout the body the consequences of its healthy activity. The mental pleasure which is the constant attendant upon a regulated exercise of the muscular system, and of the various senses in man, as in brutes, is perfectly an instinctive implantation; although in the former an extravagant indulgence in mere sensual pleasures ought to be overruled by the supremacy of his reason.

You are not, however, to infer that "mental gratification" constitutes a necessary element in the chain of actions produced by the excitement of any given sense by its correlative stimulus; since, as I formerly intimated, by the important and acute discoveries of Dr. M. Hall, and the subsequent researches of my colleague, Mr. Grainger, it is conclusively established that *no impression* can produce sensation, unless it be propagated to the *cerebral* hemispheres, or to the part which corresponds in office to them in the invertebrata. It is therefore evident that it cannot occur after artificial removal of the brain, or after the continuity of the obscure spinal axis, and therefore of the cerebro-spinal nerves, with the brain, has been interrupted. Through the assistance of this observation you can, without difficulty, understand that, like all the other attributes of organic and vegetable life, including the processes of secretion, nutrition, circulation, and respiration, the action of these organs is only in a qualified *sense* within the empire of the will.

It is easy to perceive the final cause for this provident institution. For we remark in every case that the safety of individual existence is maintained, by removing from the exclusive command of his capricious will the varied motions and functions destined for the preservation of the animal from danger. Thus we make out the propriety for the employment of the epithets, "voluntary," "involuntary," "active," and "passive," in reference to the functions of the organs of special sense. We are now *led* on by a natural transition to understand how far the views of Dr. M. Hall on the nervous system may be legitimately extended in their application to the physiology of the senses. Can those actions in which sensation is involved be considered excited in their "character?" Some of the nerves of special sense are not structurally connected with the spinal cord; they cannot therefore be within its reflex influence. But in the case of the senses, *sensation* is always excited—even in the instances in which their action appears involuntary.*

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* The opinion of Mr. Pilcher upon the reflex phenomena, manifested by the muscular apparatus of the senses, is, that the sympathetic ganglion in the vicinity of each constitutes the centre of reflexion, and that the impression, therefore, is not propagated to the spinal centre by the special nerve as the incident or excitor channel. From a careful study, however, of the results of experiments instituted by Mayo, Flourens, Müller, and others, with the view to ascertain the cause of the motions of the iris, it appears probable that the otic ganglion of Arnold is not implicated during the action of the muscles of the ear,

I have pointed out to you how the attention operates to enhance the sensibility and perceptions of the various senses; and in the last lecture you were made acquainted with the fact that, that adjustment of parts was provided in the appendages of each sense, which was best calculated to render effectual the operation of its appropriate stimulus. We have now, however, to regard the properties of these organs in another light. I have stated that the heart, the movements of respiration, and all the organic processes, are withdrawn from the influence of the will in the ordinary execution of their functions; it, therefore, appears at once probable that the senses, scarcely less important to the economy, possess also the power of acting independently of the will.

Since the conclusive establishment of the great principle of reflex action in the nervous system, it has oftentimes occurred to me that the senses might be brought within its range. In reference to the ear, instances have frequently been brought under my notice in which the action of the muscles were evidently of that character called "excited." At a future part of the course, we shall have occasion to point out to you the power which the little muscles within the tympanic cavity exert over the conditions of the membrane of tympanum, the ossicula, and the fenestræ.

It will then be made probable that they especially, under certain circumstances, are involuntary, or excito-motory, in their action. That the muscles, attached to the external ear, regulating the states of the convolutions of the pinna, concha, and external meatus, are within the scope of the excito-motory law, is apparent, from many observations particularly in the lower animals. (Albinus and Professor Müller tell us that they can at pleasure throw them into a state of contraction.) As they receive their supply of nerves from the cervical and facial, it is unquestionable that they, in common with other muscles, must be convulsed during tetanic and other irritations of the cord.

You will remember a statement which I cursorily made in a former lecture, that future investigations would establish some more satisfactory affinity than that which has hitherto been attempted between the nerves of common and those of special sensation. And there are grounds of great probability for the belief that the nerves of the various senses are under the governance of some general law, if not that identical law, which Dr. Hall has shown to apply to the nerves of sensation and motion in the whole extent of the spinal system.

In this general survey of the properties of the senses, there is another question which must greatly interest the curiosity of the inquiring physiologist. The *doubleness* of the senses is a circumstance which accords with the principle of organisation prevalent throughout the whole economy. But this division of the body does not leave the two sides in the possession of equal power: the right leg, the right eye and ear, are observed to be employed in preference, respectively, to the left, and it extends to the senses. Statistical observations appear to show that deafness more frequently occurs in the left than in the right ear. The proportion, however, is not very considerable; and the difference is supposed by some to be principally due to the habit of persons, for the most part, of sleeping upon the right side, thus exposing the left ear: it is, however, more likely to depend upon a difference of strength, or in degree of organisation.

Although the organs of the senses in the periphery of the body are twofold, the unity of perception, which results from the impressions received from external agents, has erroneously suggested the idea that their nerves must have their origin from some point, as a focal source, common to the opposite sides. In regard to the auditory nerves, from their proximity to each other at their rise from the fourth ventricle, it is possible to conceive that a coalescence may take place between the impressions, like the fibres, of the two nerves, and thus ultimately produce a oneness of sensation. But with respect to the eye, singleness of vision with two eyes has formed, for some time, a question of vexatious and difficult solution. Professor Müller has applied his penetrating mind to the discovery of some satisfactory reason for this, without, indeed, much success. He supposes that the unity of impression upon the sensorium must be due to that arrange-

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any more than the lenticular in the motions of the iris. In reference to the latter, it may be regarded as proved that the iris will *not* contract when the source of irritation is confined to the nasal branch of the fifth, while a flash of light impinging upon the retina, or the irritation of the trunk of the optic nerve, will cause an immediate diminution in the aperture of the pupil through the agency of the third nerve; or merely irritating the trunk of the third is equivalent in effect to the other proceeding, since the same result follows. Here the reflex influence is only transmitted *through* the ganglion along its motor root. Although the precise parts of the otic ganglion engaged in the action of the auditory muscles have not yet been determined by positive experiment, it is extremely probable that the auditory constitutes the proper incident nerve, from which at its arrival at the spinal cord the influence is reflected along the motor or long root of the otic ganglion, and, by means of the nerves of Jacobson, propagated to the tensor-tympani, stapedius, and other muscles, which are excited to the necessary contraction.—T. Williams.

ment which causes the light, when the axes of the two eyes coincide, to impinge upon "*identical*" portions of the retina; others have sought to explain the occurrence, on the supposition that an interchange of fibres takes place in the optic commissure, forming a point of confluence between the two impressions.*

It is quite beyond the range of our reason to say *how* an unity of consciousness and thought should result from the operations of two hemispheres; and until that difficulty is overcome, we cannot expect satisfactorily to account for the unity of effect which attends the sensations of the double organs. The inequality of development on the left and right side of the body stands hitherto unexplained. Developmental physiology is the only source from which we can anticipate a correct explanation of this singular partiality of growth.

We cannot close these remarks upon the general properties of the nerves of special sense, without noticing the question often agitated by physiologists, which respects the *relative importance* of these organs; as the lamentable conditions of cases which so frequently occur in the practice of ear-medicine, bring this question forcibly to our attention. From an estimate of these circumstances, it is obvious that the sense which serves as the medium for the conveyance of the greatest and most useful information to the mind, is that of the greatest value and importance.

But how are we to determine the standard by which to measure the amount of information thus obtained? The contrast between the eye and ear might be shown by the facts, that sphere of vision is infinitely greater than that of audition; and the velocity with which light travels is immense, comparatively with that of sound. These considerations leave the decision in favour of the eye. But it may be urged against such an inference, that sound is propagated in every direction, and through solid bodies, which totally intercept the progress of luminous undulations. This may be argued as compensating the circumscribed range of hearing in open space.

And in favour of the ear it may be contended that the lot of the *blind* is more tolerable than that of the *deaf*. To the former, the vehicle of language is left through which to enjoy the pleasures of society: he receives information without difficulty, and has many alternatives upon which to fall back for occupation in life. In the deaf, however, even when not congenital, the channel of intercourse with his friends is obliterated; he is reduced to the arbitrary hieroglyphics of the fingers, and the motions of the lips: add to this the painful consideration that congenital deafness entails upon the individual irremediable dumbness, and you will find it difficult to strike the balance of importance. But since the eye is present in some of the lower animals, as insects, without the ear we should say that the eye, of all the senses, is the most important—smell and taste are often absent.

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* The tendency of all these theories is, that notwithstanding the duplicity of organs and impressions, from the supposed communication of fibres anterior to their entrance into the brain, the effect upon the sensorium is single. The elaborate observations of Wheatstone, however, on the phenomena of binocular vision, very strikingly demonstrate that the impressions produced by luminous oscillations upon the two eyes, are propagated as *separate* influences to the sensorium, and are combined into one perception by the intervention of the mind alone, and not by any inter-communication of fibres in the nerves.—T. Williams.

LECTURES

ON THE

ORGANS OF REPRODUCTION IN THE ANIMAL KINGDOM.

DELIVERED IN THE ROYAL COLLEGE OF SURGEONS, LONDON.

By Professor OWEN, F.R.S.

LECTURE XIX.—June 2, 1840.

In the previous lectures has been traced, a sketch of the phenomena and modifications which accompany the development of the generative function. This function has been divided into seven processes or parts, a division which is not artificial or founded upon a disposition to establish nice and unnecessary distinctions, but which really exists and is susceptible of variable transposition in different orders and classes of animals; instances of this inversion of the established order in the highest animals have already been given. In the next place, we glanced at the changes in the individual concomitant with the acquired power of producing the semen or the germ, and the distinctive characters of the two sexes. Among the most prominent of the sexual peculiarities was the development of a pair of temporary horns at the period of the rut, in which we perceived the agency of a final cause, the preservation amongst polygamous animals of the greatest number of females to the strongest and healthiest male. Next, we were struck with the prodigious size and strength of the female of the raptorial birds as compared with the male, a character that had reference to the necessary provision for, and defence of, her young. Numerous were the instances in which the most splendid hues were added at the sexual period to the dull primitive colour of the race, and served as distinctions and

ornaments tending to render the possessors more acceptable and attractive to each other. Then the first of the preparatory processes in the male, the secretion and formation of the seminal fluid was examined. At present, therefore, it remains to inquire into the process by which the ovum before fecundation, that is, the *ovarian ovum*, is produced.

Development of the Ovarian Ovum.—The first observation belonging to the subject is the consideration of the cavity of the ovarium in which the Graafian vesicle or follicle is contained. As early as the year 1834, in pursuing the mode of development of the marsupiata, Mr. Owen assured himself of the identity of the Graafian vesicle with the calyx of birds; and from that circumstance adopted the name ovisac, which he applied to that vesicle. More recently, Dr. Martin Barry, in his able and admirable researches into these phenomena, has applied that term to a different structure, one which will presently be described. The Graafian vesicle presents for examination an external theca or tunic; an internal theca, which is the most important part of the vesicle, and constitutes the true ovarian vesicle, or the ovisac of Barry; then a layer of nucleated granules or cells forming the membrana granulosa. The ovarian vesicles, or ovisacs of Barry, are found in such prodigious and incredible numbers in the mammiferous ovary, that when examined with the microscope, about one thousand five hundred millions are estimated to be included within the space of one single cubic inch.

These vesicles are at first simple minute sacs, containing a limpid and transparent fluid; but soon afterwards they are seen to contain a number of peculiar granules or cells, each possessing one or two nuclei. The vesicles are developed in the small cavities of the stroma of the ovary, and frequently between the tunics of the more advanced ovisacs. From the astonishing numbers in which they exist, it must be clear that few only can be destined to contain an ovum; and this is more and more the fact, as we rise higher in the animal scale. In fishes, almost all the ovisacs are capable of developing a true ovum, and arriving at perfection; in man, how few can possibly attain this end. As the ovarian vesicle or ovisac (of Barry) increases in size, the stroma of the ovary immediately surrounding it becomes condensed, and converted into a thick and highly vascular tunic. Besides the coverings which are thus formed, additional tunics may be produced accidentally, by the protrusion of the ovisac into the internal cavity which exists among the lower vertebrata, as in fishes, when the vesicle acquires an investment from the fibrous capsule of the ovary and one from the mucous lining; or by the protrusion of the ovisac externally, as in the bird, in which case the peritonæum in the instance of the Aptherix may form the exterior investment, or, in the majority of birds, one of the superjacent air-cells. In the latter case, as in the former, the ovisac will possess a true covering of mucous membrane.

In mammalia, Mr. Owen cannot satisfy himself of the appearance of the germinal vesicle in every case, before the ovarian vesicle is discovered. He thinks that the ovarian vesicle (ovisac of Barry) is first formed; and that the germinal vesicle, with its characteristic germinal spot, appears very soon afterwards. The manner in which this formation occurs, will be best explained in the following manner:—An atom of organic matter must be supposed to be floating in a small quantity of fluid, which has been gradually accumulated by imbibition. Here, then, we have a nucleus contained in a transparent cavity or vesicle, and forming a primitive cell. In the next place, other particles of organic matter are imbibed by the vesicle and deposited upon its internal surface, thus constituting two distinct layers. Then, as imbibition goes on, fluid is received between these two already-formed layers, and separates them from each other, as Schleiden has observed, like a watch-glass from its face, or like the cornea from the iris, by the fluid of the anterior chamber of the eyeball. In this manner we have a vesicle produced inclosing in its interior a nucleated cell, and a similar process gives origin to the essential part of the ovum.

When the structures are completed, we shall then find an ovarian vesicle with its nucleus, the germinal vesicle; which latter contains also a nucleus, the germinal spot.

In birds, in the higher reptiles, and in cartilaginous fishes, there exists but one germinal spot; but in Batrachian reptiles and in osseous fishes, there are many such spots. In mammalia, as the ovum progresses in development, the space between the ovarian ovum (ovisac of Barry) and the ovisac or Graafian vesicle gradually enlarges. In birds, on the contrary, it diminishes from the necessity for a provision of nourishment for the future embryo, and the consequent collection of vitelline granules and oil-like globules within the ovisac (Barry). This ovisac, therefore, goes on increasing in size until it bursts from the calyx, and is received by the open mouth of the oviduct. In consequence of this increase of size in the bird, the tissue between the ovisac and the calyx becomes compressed, and forms a vascular membrane under the name of discus proligerus. During the enlargement of the yolk, the germinal vesicle which was placed in the centre travels towards the surface; and by a mysterious law, to that point of the surface precisely which is nearest the extremity of the ovarian tube.

In monotremeta and marsupiata the ovum acquires the character of that of the bird, from the existence of a large quantity of vitellus, and the consequent diminution of

the exterior space. In the higher mammalia, in Man and in the Rabbit the ova are much smaller, and the space between the ovisac and Graafian vesicle comparatively much greater. In the Rabbit, the animal in which the progressive development of the ovum has been best established, the nucleated cells or granules situated between the ovarian ovum and the ovisac (of Barry) have been found to dispose themselves in two layers; one of these forms an investment to the ovum, under the name of the tunica granulosa; the other, the internal lining of the ovisac, has been named the membrana granulosa. A third arrangement of these cells has also been observed; they form string-like bands, which become strengthened by the prolongation of vessels into them, and are attached by one extremity to the tunica granulosa, and by the other to the membrana granulosa. These strings are generally four in number, or they resolve themselves into four, and have been named by Dr. Barry retinacula ovi, on account of their function of directing and drawing the ovum from the centre towards the periphery of the ovisac; to that point of the surface whence the ovum is afterwards to escape, and probably where impregnation takes place. When the ovum bursts from the ovisac, these retinacula are carried with it into the Fallopian tube.

Certain differences are found to exist in the ovarian ovum in the various classes of animals. In the osseous fishes, where the stroma of the ovarium is sparing, and at the same time delicate and yielding, it supplies to the ovarian vesicle only a delicate investment of its own proper tissue, but another is derived from the mucous lining of the ovary. The ovum, moreover, nearly fills the cavity of the vesicle. The ovum is therefore composed in this group of the vitelline membrane, the vitellus, the germinal vesicle, and the germinal spots. In the cartilaginous fishes with their higher organisation of nervous system and generative apparatus, the stroma is compact and firm; the ovarian vesicle receives from it a more dense and resisting tunic, and the ovum approaches nearer to the higher vertebrata in possessing only a single germinal spot. The Batrachian reptiles resemble in their ova the osseous fishes, having numerous germinal spots. The higher reptiles, as the Serpents, Crocodiles, Turtles, and Tortoises, have but one germinal spot; and the ova of the two latter groups resemble birds in the larger proportion of vitellus which they contain. In birds the vitellus is most abundant, and the ovisac is connected to the ovary by means of a pedi-ciliated calyx, as we have also seen to occur among some of the lower mammalia. In mammalia the ovisacs (of Barry) are very minute, and possess no other external covering than the tunics of the Graafian vesicle. They contain little more than the essential parts of the ovum, but these are endowed with the vital property of producing all the necessary parts of the embryo.

Fecundation.—When this function is intended to take place externally to the animal, as in fishes, the parts needful for the production of the essential constituents of the ovarian ovum are alone present, as is illustrated in the simple ovary of the Lamprey. Most osseous fishes, it is true, have an excretory oviduct; but this is short and membranous, and incapable of adding any additional covering to the ovum. In Batrachia the ovum has to travel from the ovaria along a convoluted and lengthy oviduct, and obtains in its progress an albuminous investment, and a thin external membrane or chorion. In these animals the ova are, moreover, collected in a dilated uterine cavity previously to expulsion. In birds, the ova are not discharged from the ovary until after sexual intercourse has taken place. The well-fed and well-provided fowls of our barn-yards form an exception to this rule. But this must be looked upon merely as the exception, not as the rule.

At the period of fecundation the female fish seeks a favourable situation as a nidus in which to deposit her spawn. Into this retreat she is closely pursued by the male, frequently by two. In the latter case, amongst some genera, the most violent combats take place between the males, during which the weaker opponent is frequently driven out of the water. As the spawn is expelled by the female, the fluid of the melt is expressed by the male, and washing over the ova serves to fecundate them. It was the observation of this simple process that suggested to naturalists the idea of artificial impregnation; a process which was performed by Rusconi, and more recently in the Salmon, with the most interesting results, by Mr. Shaw. The latter gentleman, in his excellent paper, read before the Royal Society of Edinburgh, on the Development and Growth of Salmon-Fry, makes the following remarks upon the mode of fecundation as observed by himself; by which it will be seen that it is not the cold process which we should be disposed to regard it, by following only the accounts given by other naturalists:

"On the 10th of January, 1836, I observed a female Salmon of considerable size (about 16 lbs.), and two males, of at least 25 lbs., engaged in depositing their spawn. The spot which they had selected for that purpose, was a little apart from some other Salmon, which were engaged in the same process, and rather nearer the side, although still in pretty deep water. The two males kept up an incessant conflict during the whole of the day for possession of the female, and, in the course of their struggles, frequently drove each other almost ashore, and were repeatedly on the surface displaying their dorsal fins and lashing the water with their tails."

Among Batrachian reptiles the expulsion of the ova is assisted by the embraces of the male, and the ova are produced in the form of a chaplet, or of a lengthened string. In some species this embrace lasts for a period of thirty-eight days, during which time the two animals are lost to every other care, and abstain from food. Among the higher reptiles, as in the Lizard, the male is most ardent in his advances; he pursues the female with great agility, seizes her tail with his teeth, and throws her upon her side. They then entwine their tails forcibly together, which in this instance perform the office of the claspers of Serpents, and lying on their sides with the abdominal surfaces in contact, the fecundating act is performed. In the majority of birds the act is performed by eversion of the cloaca of each animal, and by the sudden contact of the two opposed surfaces, and of the papillæ of the vasa deferentia with the openings of the oviducts. In aquatic birds, where the act is performed upon the water, we have already seen that a large intromittent organ is provided. In the running birds, the Emu, the Cassowary, and the Ostrich, there is also an intromittent organ of considerable size.

Throughout mammalia a coitus occurs. In the Deer this concurrence of the sexes presents the shortest possible duration, and it is indeed marvellous to witness with what rapidity it is performed. The male makes a series of gambols and gyrations around the female, and darting suddenly towards her, the act is accomplished; its period certainly not occupying more than a quarter of a minute. As a contrast to this suddenness of completion of the fecundating act in the Deer, is the long and tedious operation in the Dog; a circumstance depending upon the peculiar conformation of the male organ in that creature. These two animals present the two extremes in the period required for the consummation of the generative act. In the Kangaroo, so close in its other analogies with the oviparous animals, the embrace is of long duration, and during this period the coitus is repeated three, four, or five times.

We now come to an inquiry the most important and mysterious involved in the phenomena of generation; the conditions requisite for the perfection of fecundation; the steps in the accomplishment of impregnation. When the physiologist considered this question only in relation with the highest animals, the subject could not have been otherwise than involved in obscurity and speculation—speculation as to whether the male fluid was brought in direct contact with ovum, or whether impregnation was effected through the medium of a hypothetic effluvium or aura; or whether, again, it was absorbed into the constitution of the individual, and thence acted upon the ovum. If, however, we take a wider and more enlarged view of all the circumstances which the phenomena present, and compare them with the corresponding function in plants; and if we also remark the close similarity, both in the production of the male organs and of the female throughout the entire animal kingdom, we shall be inclined to admit that an analogy throughout living nature may be fairly and safely acknowledged to exist.

In many animals, as we have seen, no intromission occurs; the organs capable of effecting this act, are, therefore, not essential parts of the generative apparatus. One of their very prominent uses would seem to be to confer sexual gratification, and render the fecundating act one of the most exquisite enjoyment. The existence of obstacles to the direct current of the male fluid to the ovaria, such as we see in the mechanical impediments, of the position of the os tincæ, or in the valvular vaginal processes of some ruminants, cannot be used as an argument against the occurrence of actual contact. Experiments upon animals have shown most unquestionably that, if the ovarian tubes be obliterated, no fertilisation can take place. The theory of a supposed aura was, moreover, completely destroyed by Dr. Heighton's researches; on the other hand, the clearest proof of direct contact is exhibited in the instance of reproduction among fishes; and the latest and best researches of the present day have succeeded in two instances in discovering spermatozoa upon the ovarium of the Bitch and the Rabbit; the former observation being made by Bischoff, and the latter by Dr. Martin Barry. These facts would seem to imply the necessity, throughout the entire animal kingdom, of immediate contact between the moving filaments of the semen and the ovum in the ovarium.

If we inquire, what are the means by which the spermatozoa are conducted through so long and tortuous a passage? we shall find the answer, in a phenomenon which may be observed with the greatest ease. Place the mouth of a Newt beneath the field of a lens of low power, and sprinkle a little of the dust of charcoal upon the mucous membrane, the small particles will be seen travelling, by an imperceptible but continuous and definite movement, from the lips towards the gullet. This motion is produced by myriads of minute vibratile cilia, which cover every part of the mucous surface; these same microscopic organs may be seen in the oviducts of the recently-killed bird, and exist in the genital canals of all animals. It is, therefore, by the agency of these vibratile cilia, aided by the locomotive faculty, additionally possessed by the spermatozoa themselves, that their progressive course towards the ovaria is determined.* On the other hand, the pro-

* It has been observed by Purkinje and Valentin, that the transit of the semen to the ovaria by means of the cilia is conjectural rather than susceptible of proof.—Ed. L.

ducts of the female apparatus move in the opposite direction to those of the male, from the more central parts towards the surface, and thereby meet the fecundating principle.

The analogy borne by the generative function in the vegetable kingdom to that of the animal kingdom, has been illustrated by Hunter in a rich and beautiful collection of preparations. In these are exhibited the so-called male parts of the flower, the stamens, the anthers, with their pollen capsules; and the female parts consisting of the pericarp, including the seeds, the stigma, and the style; the style frequently contains a fine cellular tissue, and sometimes a canal, which divides at its lower part into several branches for the different compartments of the pericarp; the grains of pollen are conveyed from the anthers to the stigma, either by actual contact, through the medium of the air, or by insects; minute filaments are then developed within the pollen capsule, according to the researches of Amici, Brogniart, Brown, &c., which, by their increase in size, cause it to burst, and they are then transmitted into the loose cellular tissue or tube of the style, and pass downwards to the seeds contained within the pericarp: each seed contains a nucleus, more or less surrounded by a nutritive substance, the perisperm, and connected to the capsule by means of a filamentary organ, called by the botanists the umbilical cord, but more nearly resembling the retinacula ovi of Barry. Situated at that point of the seed which is immediately in connection with one of the branched tubules of the stigma is a minute opening in the shell, which is called the microphylla; the nucleus of the seed is always situated near to this opening, and sometimes projects through it, and it is, therefore, with the nucleus that the filaments of the pollen are brought in immediate contact.

In Dr. Barry's last paper presented to the Royal Society, that gentleman records a most important and interesting observation. He states that, as the moment of fecundation arrives, the ovum approaches the surface of the ovisac, and gradually presses against it; that the germinal vesicle reaches the surface of the membrana vitelli at the same point, and the germinal spot slightly projects; at this period the zona pellucida and membrana vitelli become fissured, and a small opening is formed. It is obvious that this cannot take place without some wise intention. After remaining open for a short time, the germinal vesicle returns to the centre of the vitellus, and the opening closes. This is the point to which our knowledge of the phenomena attendant upon the fecundation of animals has at present arrived.

REFLECTIONS ON

THE TREATMENT OF VARIOLA,

BY THE "ECTROTIC METHOD,"

Principally with a View of Preventing the Formation of Cicatrices.

[Extracted from a Paper read before the Parisian Medical Society, by J. F. Olliffe, M.D., President of the Council.]

It is not my intention to enter into an historical account of what has been written on the origin and progress of variola, nor to follow the disease in its different migrations and wanderings; still less do I purpose laying before you the innumerable modes of treatment which, at different periods, have been employed against it. It would be an ungrateful and fastidious task to wade through the mass of matter which has appeared on the subject; the only effect thus produced would be to confuse our ideas, and to convince us that, until very lately, no rational treatment had been proposed to combat the ravages of one of the most dreadful scourges that ever afflicted mankind.

Small-pox is not confined to one climate, nor to any particular class of persons. All countries, all ranks, individuals of all ages, fall a prey to its baneful influence; whilst the hideous scars which frequently deform those who resist its fatal effects, render them objects of pity and commiseration.

In my remarks this evening, I shall endeavour to prove that an external topical treatment, suitably directed, is the *only rational* one in cases of variola; and I hope to convince those of my auditors, who are not as yet very conversant with the new French doctrines on the subject, of the efficacy of such treatment. I shall dwell on those therapeutical agents which appear to me to have a superior power in subduing the disease, *by preventing the formation of pustules*, and, consequently, of cicatrices; whilst I shall glance at, without stopping to discuss their merits or demerits, several recent suggestions, as to the treatment of variola, which have been thrown out by authors both in France and elsewhere.

In the treatment of all varieties of small-pox, whether of the discrete, semi-confluent, or confluent sorts, two curative methods are to be observed; the one may be called, and in fact has been termed, *indirect*, the other direct. The former is purely antiphlogistic, and embraces the general range, depletion, low diet, &c. The latter directly grapples with the exanthem by topical action, and to its employment your attention shall be particularly directed. As to the prophylactic measures, represented by inoculation, vaccination, &c., considerations on this interesting head do not come within the compass of the present paper.

The etiology of the disease must, likewise, be considered as foreign to my subject. Were I to discuss the nature and causes of variola, I should not thereby throw much light on the *rationale* of the treatment, which alone is to be the object of my research; for the causes are still wrapped in mystery, as the numberless hypotheses of those authors who have written on them abundantly prove. Besides, were I now to moot this question, even in a very superficial manner, I should swell this paper into a volume. Those, however, who wish to glean valuable ideas on the etiology of small-pox, may consult Velpeau's article in the "Revue Medicale" of 1825, and M. Gendrin's "Historie Anatomique des Inflammations," vol. i., p. 398, *et seq.*

Before we enter on the study of the several topical methods which have been proposed, and before we discuss their advantages or inconvenience, let us establish the three following propositions, the truth of which we shall admit *à priori*, reserving to ourselves to prove their accuracy, by deductions drawn from our arguments at the close of the essay.

Prop. 1. I admit, with M. Velpeau and others, that variola is a specific affection, having its *principal* seat in the follicles of the dermis. It is quite unnecessary for me here to describe the different sorts of variola, its duration, symptoms, and complications.

Prop. 2. The principal indication in the treatment of *incipient* variola is to check the progress of the eruption, and to prevent the formation of pustules; each pustule ought to be considered as a nucleus of inflammation.

Prop. 3. Resorption, in cases of variola, far from being attended with accidents, is, on the contrary, always followed by beneficial results.

If we admit these propositions (and I repeat that what follows will, I trust, demonstrate them), it is evident that any topical treatment, having for its object to counteract the eruptive process, will, at the same time, exert a generally salutary effect. In consulting most of the ancient writers on small-pox, we seek in vain for any therapeutical method directed against the eruption iself; they supposed that it was dangerous to suppress or modify it, and they advised that all efforts should be directed towards obtaining a plentiful *crop* of pustules; it is much to be regretted that the great majority of practitioners of the present day entertain the same erroneous and absurd opinion, and that many inculcate it both in their lectures and writings, thus endangering human life, and favouring the production of deformity. I trust to be able to prove to you, that the precept laid down by Cotugno, and lately reproduced and supported by M. Roche, is fallacious in the extreme. Cotugno says, "*Morborum curatio ita fere instituenda est in variolis, uti institueretur, si variolæ non adessent.*"

A modern writer, whose recent work on general pathology just now enjoys a considerable share of public favour, has emitted a preposterous doctrine, which I hope, for the benefit of suffering humanity, will find few followers. "Les affections varioleuses ne peuvent pas être guéries; on les surveille, et voilà tout, mais ce serait folie que de chercher à les guérir (!!!)—Dubois "Pathologie Générale," vol. ii., p. 547.

Let us now rapidly pass in review the different topical remedies employed at various periods in variola.

Previously to Sydenham, the stimulant system was in vogue: heat, cordials, spices, and other such remedies, were had recourse to, and but too frequently proved to be the means of exasperating the malady, and of endangering life. Sydenham destroyed this barbarous treatment, and established as a principle, that with a view of moderating and keeping under the fever, fresh air, cold water, acid drinks, and purgatives, should be employed; to these were added, according to the circumstances, and the stage of the disease, blood-letting, blisters applied to the extremities, cold baths, narcotics; but it never occurred, even to the master-mind of Sydenham, that the grand secret was to arrest the progress of the eruption, or to modify its nature.

Cotugno was the first to direct attention to the means of preventing the disfiguration of the face. He confined himself to recommending that it should be frequently bathed with tepid milk and water, arguing that a state of continual moisture would be efficacious in opposing the complete development of the pustules. This work, "De Sedibus Variolorum Syntagma," was published at Vienna in 1771; and from that period down to the year 1825, not a single suggestion worth attending to was made respecting any external treatment.

In 1825, the researches of Messrs. Bretonneau and Serres were published in the "Archives de Médecine;" they advocated the employment of cauterisation in variola, and gave the name of "*méthode ectrotique*" to their discovery; they were joined by Monsieur Velpeau, and these three eminent practitioners agreed as to the *principle* of their curative treatment; but as their mode of operating somewhat differed in detail, I may, perhaps, be allowed briefly to allude to each. M. Bretonneau pierced the summit of each pustule with a gold or silver needle, charged with a small portion of lunar caustic in powder; he cauterised on the second, or at latest on the *third* day of the eruption, with the double intention of procuring the abortion of the pustules, and preventing the formation of scars; M. Guersent, physician

of the Hôpital des Enfans Malades, repeated M. Bretonneau's experiments.

To M. Serres belongs the credit of creating the *méthode ectrotique*, properly so called. The word ectrotique is derived from the Greek εκτρωσις or εκτρωτικος, which means "procuring abortion;" and I cannot see why it should continue exclusively to be applied to M. Serres's system, which, as we shall presently see, is not the most eligible one. M. Serres proceeded, in confluent small-pox, by what he called "cautérisation en masse." He passed over the eruption a pencil dipped in a solution of nitrate of silver, the proportion from fifteen to forty-five grains per ounce of distilled water; in the distinct or discrete variety, he was not accustomed to open the insulated pustules, whilst M. Bretonneau invariably did so, but he touched each externally with the caustic. M. Serres affirmed that this topical application, besides causing the abortion of the pustules, opposed the occurrence of phrenitis, otitis, and ophthalmia, which so often appear in the course of the disease which now occupies our attention.

M. Velpeau completely removed the apex of the pustule with the point of a lancet, and then introduced into its cavity the sharpened end of a pencil of nitrate of silver.

Such is a succinct *résumé* of the "méthode ectrotique." Those who wish for a detailed account of the experiments may consult the "Archives de Médicine," of June 1825, and the "Revue Médicale" for 1825, p. 516, *et seq.*; as also the same Review, 4th vol., 1828. The inventors of this method have summed up their ideas in the following conclusions:—

If the cauterisation be performed on the second day of the eruption, or, at *latest*, on the *third*, no pustules are formed; if on the fourth day, the result is uncertain; if it be delayed until the fifth or sixth day, the progress of the eruption is not modified, and cicatrices remain.

The ectrotic method, when it first came into practice, caused a considerable sensation in Paris; all the physicians of the metropolis gave it a trial; but it is now completely obsolete; and I perfectly agree with M. Rayer, M. Chomel, and other high authorities, that it should be so; and for the following reasons: 1st, its exhibition is attended with much pain, and, as M. Guersent justly remarks (Dictionnaire de Med. Art. Variola, in 25 vol.), Is it not a serious question whether the excessive pain accompanying the cauterisation, and the inflammatory reaction which ensues, do not tend to provoke those cerebral affections, which, M. Serres affirms, are thereby obviated? In case, however, the *méthode ectrotique* be employed, M. Serres's plan, that of the *cautérisation en masse*, is preferable to the others; it is less painful, and the two others are, in most cases, impracticable. How is it possible to cauterise each pustule in a case of confluent variola? Few individuals would submit to have all their pustules opened, one by one; and fewer physicians would have patience to get through so tedious an operation.

Before I take leave of the *méthode ectrotique*, I am bound to say that, although it is now almost obsolete, still its momentary and fleeting existence has been productive of immense service to humanity. Its invention will constitute an era in the history of the treatment of small-pox; for its authors have directed the attention of the medical world to a new and effectual mode of combating the progress of the disease: already are the fruits, of which they have sown the seeds, ripening, and a salutary and rich harvest of facts will, I am confident, be, ere long, appended to the annals of therapeutics; but I must not anticipate; let us pursue our cursory review.

M. Eichhorn recommends the employment of vaccination when the eruption commences. He loses no time in making a number of incisions (forty or fifty), into each of which he introduces a quantity of vaccine matter; he assures us that if this practice be persevered in, no case of variola, however virulent, will be fatal. M. Rayer (see Dictionary of Med., in 15 vol., article Variole) has tried M. Eichhorn's treatment on two patients, both of whom died; but he announced, in 1835, his intention of recurring to his experiments. I know not if he have done so.

The puncture of the pustules, and the careful expression of the purulent matter contained in them, has been tried, and, in some cases, attended with signal success: this system, though of recent adoption in our countries, is of very ancient date. It owes its origin to the Arabs; it has been repeated in France, by Messrs. Rayer and Bonnet; in England, by Dr. Stewart; and in Germany, by Hufeland. But the difficulties which its execution offers are analogous to those we have noticed in alluding to the *méthode ectrotique*, and must ever form a formidable, if not an insuperable, barrier to its adoption.

As to the effects of the refrigerant system, such as exposure to cold air, the employment of cold baths, &c., I am not aware of a single case of variola being on record, in which these remedies have modified the course of the eruption.

Dr. Picton, of New Orleans, published, in 1832, in the American "Journal of Medical Sciences," a series of cases of variola, which had been treated by him in the general hospital of the above-named city; his sole therapeutic agent was the absence of light. He affirms that all his patients were cured, *and that not one was pitted*. I own that I am somewhat sceptical as to the authenticity of results so extraordinary.

At a late assembly of the Academy of Medicine of Paris, M. Legrand read an inte-

resting paper, on the employment of gold leaf in small-pox. This practitioner applies to the face of the patient a coating of a solution of gum arabic, over which he lays the metallic leaf, thus *gilding* the visage. M. Legrand's Memoire, of which an analysis was given in the Archives of August, 1839, was favourably received by the academy.

From what precedes, must we not acknowledge, Gentlemen, that we have not hitherto met with any indication, or any basis, whereon we may found a rational therapeutic construction? But I now hasten to perform an agreeable duty, to advert to another topical treatment; one teeming with importance, and which will, I am convinced, operate a total revolution in the curative measures henceforth to be opposed to the ravages of small-pox. I allude to the external use of mercurial preparations—and here, allow me a short retrospective view, permit me briefly to endeavour to trace the history of the employment of mercury in variola.

Mercury, used internally, has been administered at all periods. It was now and again advocated, and as often abandoned; but it seldom, if ever, entered into the minds of physicians to employ it externally. It was frequently remarked that variola assumed a mild aspect when it attacked individuals who had undergone a course of salivation by mercury; and the following passage, which I extract from the erudite work of Mason Good (vol. iii., p. 110), will serve to elucidate what I here advance, namely, that mercury, previously to the researches which I shall presently notice, seriously occupied the attention of medical men:—

"Mercury appears to have a specific influence on the action of variolous matter; perhaps, as in the case of syphilis, upon the quality of the matter itself; for though, when considerably diluted with water, it is still capable of propagating the disease by inoculation, yet Von Wensel has shown satisfactorily that when triturated with calomel it loses its energy, and in inoculation becomes inert and useless. Mercury has since been denominated in Germany the *remedium pancreston*, and has certainly supported its character as the best corrector of small-pox we are acquainted with, from a period antecedent to the introduction of inoculation into Europe, to the present day." "Physicians who attend hospitals," says Sir George Baker, "have frequently observed the small-pox to be particularly mild in those patients who have happened to receive the infection soon after a mercurial ptyalism; and inoculation is said to have been a much more successful practice in some of our American colonies, since the use of calomel has been there introduced into the preparative regimen."*

Malouin, in his "Chimie Médicinale," relates the case of a woman who was under treatment for a syphilitic affection; she had at the same time a mercurial plaster on the sacrum, over a tumour situated in that region. This plaster had been applied for some days when she was attacked with small-pox; she then removed it. A violent pustulous eruption took place, which covered the whole body, except the part which had previously been in contact with the plaster. This case deserves to be noted, for it became the *point de départ*, the starting post, of a series of admirable experiments. Rosen de Rosenberg, a German physician; Zimmerman, Sulger, and others, employed the mercurial plaster; I have already mentioned the opinions of Von Wensel.

Those insulated facts were lost to science, when M. Serres commenced his researches, which have been continued by several others, and which have lately, in the hands of M. Briquet, been followed by the most valuable results. The first, or, at least, the principal notice of these experiments, was published in the "Archives de Medicine," vol. xxx., 1825, by M. Gariel, interne at the Salpetrière. This article contains the statement of eight cases of variola, six semi-confluent and two confluent, all treated and cured by mercury. The first patient was a young man, aged 25 years. He entered the hospital with an abundant eruption. The plaster of *Vigo cum mercurio* * was applied to the left arm, and on the right was placed a common diachylon plaster. Under the mercurial plaster *no pustules appeared*; whilst on the right arm the progress of the eruption was unmodified. No mercurial topic was applied to the face of this patient, as M. Serres dreaded the occurrence of cerebral symptoms; *deep cicatrices* remained after the recovery of the patient.

The second case occurred in February, 1825. I mention this date with precision, as the patient, named Bouret, ætat. 15, was the first who was treated by the general topical system. His face was covered with the plaster; a part of which he tore off during

* The use, or rather abuse, of calomel in America is carried to an incredible degree. An eminent American practitioner, at present resident in Paris, told me, a short time since, that he had taken 140 grains in twenty-four hours!

* As the plaster of Vigo will be frequently mentioned in the remainder of this paper, I here give its composition, according to the French pharmacopœia.

Mercure ..... 95 parties.
Styrax liquide ... 48
Emplâtre simple 312
Cire, resine, terebinthine, aa 16.
Gum ammoniac, bdelluin, encens et myrrh, aa 5.
Safran..... 3 parties.
Esprit de lavande .. 2

the night which followed its application. *The denuded surface was the seat of suppurating pustules, whilst on that portion of the visage which continued subjacent to the plaster their abortion was effected!*

The last case narrated by M. Serres, is that of a man named Odard. He had not been vaccinated. He was affected with violent confluent variola; the pimples were small, scarcely raised above the level of the epidermis, and surrounded with a brilliant red areola. The Vigo plaster was applied, and allowed to remain seven days; on its removal, it was found that no suppuration had been established, with the exception of four pustules, and these were situated near the mouth, and had not been in contact with the plaster. This patient was radically and rapidly cured, and no scars were manifested. I must not omit to state, that the comparative effects of other topical remedies were tested, but in no case did they in any way modify the eruption.

From the foregoing results, M. Serres drew the following inferences:—

1. The plaster of Vigo cum mercurio produces a complete abortion of variolous pustules.

2. Diachylon, porphyrised charcoal, gum arabic in solution, and all other topics hitherto applied (with the exception of litharge), with the intention of causing this abortion, have completely failed.

3. The abortion takes place, not only when the pustules are yet in a state of papulæ, but even when they are in full suppuration. (Here I must differ from M. Serres, for M. Briquet's researches prove that the appearance of the pustules in the suppurating state renders the effect of the mercury altogether void.)

4. The abortion takes place by a process totally different from that which is effected in *varioloid* affections. In the latter it is to be attributed to the prompt desiccation of the *vesicle*, whilst in variola the pimple does not open at all; no pus appears, no scales are formed; resorption is effected, and, consequently, no scars can possibly occur.

5. and lastly. The greater part of the body should be covered with the mercurial plaster.

In 1837, M. Gariel defended an inaugural thesis on the subject before us, at the Parisian Faculty of Medicine; but little attention was paid to his remarks or to those of M. Serres. Even M. Rayer, in his last edition of the "Maladies de la Peau," alludes to mercurials in variola in a very cursory manner, and professes his ignorance of their mode of action. Things were in this state, when, in October, 1837, a violent small-pox epidemic broke out in Paris and elsewhere. M. Briquet, of the Hôpital Cochin, was thus afforded an opportunity of giving mercury a fair trial; and the remarkable consequences of his sagacious and well-directed experiments are such as to establish, in my opinion, a solid, efficacious, rational, and SPECIFIC treatment of small-pox, in all its diversified varieties. I regret that the limited space to which I am obliged to confine myself, and the length, I fear unreasonable, to which this paper is being extended, will preclude me from giving ought else than a very concise view of M. Briquet's labours. I shall, however, endeavour to lay before you their most prominent features.

It is well known that the violent symptoms, which constitute the *prodrome* of variolous affections, altogether cease, or are considerably diminished, when the eruption appears. The patients, even those labouring under the most confluent small-pox, remain a day or two in comparative comfort; but this calm is transient and delusive, it is but the precursor of a storm. The accidents reappear with increased intensity, and continue unabated until the process of suppuration is terminated.

Before we throw an analytical glance over this part of M. Briquet's treatment, let us for a moment contemplate the dreadful state of the unfortunate patient attacked with violent confluent small-pox. Innumerable thronging pustules cover his whole body; his face swells to an immoderate size; the eyelids are ulcerated; the ocular conjunctiva is attacked; and the visual functions are often consecutively destroyed; his features are the seat of a vast ulceration; a hideous scab, masks his visage, and causes excruciating torture; it is interrupted here and there by fissures, through which ichorous fœtid fluid escapes; the compression, by this scab, of the subjacent parts, may serve to explain the cerebral symptoms which now manifest themselves: this ichor is peculiarly virulent; its course is marked with trails of vesicular and fiery erythema over different parts of the body; the head is oppressed, the brain delirious; the nose and mouth are, by degrees, stopped up; dyspnœa, then suffocation, occur; the inspirator muscles endeavour, but in vain, by the most convulsive efforts, to dilate the lungs; asphyxia often ensues; or, if it do not, the epidermis suddenly becomes flattened, the features sink, the coma increases, and death closes this scene of horror. Frequently, above all in hot climates (and I witnessed not long since a case of this sort at Naples), bubonous ulcers appear in the groins; this fatal complication sometimes occurs in our own countries; we find it thus alluded to by Hucksan:—"Variolæ epidemicæ interdem crudo diffluent ichore, qui subjectam carnem erodit, imo et nonunquam ipsâ gangrenâ afficit." Should all the details of this miserable train of symptoms not coexist, should a cure be effected, the patient bears, for ever, imprinted on his brow, the pernicious brand of the enemy. And here I would ask, Why should not the prevention of the

formation of those frightful scars form a principal indication in the treatment of variola? Are we not daily witnesses of the disastrous consequences of disfiguration of the features to those who are visited by the disease? Do not the prejudices of the world, prejudices which I deplore, but which, unfortunately, nevertheless exist, all but exclude disfigured faces from the pale of society? How many heartrending instances of faded beauty, disappointed love, destruction of long-cherished affections, all consequent on the ravages of variola, daily meet the aggrieved regards of the physician? Is it not, then, praiseworthy in the medical philanthropist to combat *à outrance*, the withering inroads of so horrible a scourge? M. Briquet has, doubtless, gone far towards the attainment of so desirable an end.

His first papers were published in the "Archives" of September and October, 1838 (vol. xxx., pp. 5 and 133). In the brief notice to which I am compelled to limit my present observations, I shall first expose the new plan of treatment, and then hazard a few remarks as to the mode of action of the remedy.

Mercury, as a topic, ought to be employed in all the varieties of small-pox, whether simple, confluent, or modified. Its effect is either to prevent the development of the pustules, or so to modify them that they become mere abortions. The whole face should be covered with a mask of the Vigo plaster, merely leaving a space for the mouth, nostrils, and eyes. A little mercurial ointment is applied to the eyelids.* By the application of these plasters, the exanthem either undergoes entire resolution, or is converted into *vesicles*, or tubercles. The resolution is either primitive or secondary. The former takes place when the eruption is still papular; so that the papulæ, which, without the application, would have passed into pustules, disappear completely under its influence. The plaster often, indeed generally, changes the nature of the eruption, by converting it into a vesicular or tubercular form. When it assumes the vesicular form, it differs little in appearance from herpes;—the vesicles contain a lymph-like serosity, and are surrounded by a light red areola; and a most remarkable circumstance is, that the skin between the insulated vesicles is pale and never swollen and red, as it is in small-pox. No *suppuration ever takes place*. A day or two after the removal of the plaster the vesicles dry up, without any desquammation; and as for cicatrices, M. Briquet has never seen any form after his treatment. He totally differs from M. Serres respecting the utility of the plaster when the eruption has become pustular. The plaster is allowed to remain for three days in simple small-pox, and for four in confluent. M. Briquet tried, as did M. Serres, the effects of pressure, of lead plasters, and a host of other topical remedies; but always without the effect of modifying, in any way, the eruption. Thirty observations, some of them relative to cases of the most grievous kind, attest the unparalleled success of M. Briquet's experiments.

Friction, with mercurial ointment, may be substituted for the Vigo plaster; and they are, in fact, quite as efficacious; but they must, as in all other cases, be performed before the eruption assumes the pustular form. An interesting case of confluent variola, which was under the care of my friend, Mr. M'Carthy, our vice-president, last year, at the Pitié, was treated by friction with mercurial ointment. I regret the want of space to give the particulars, as they would furnish me with an additional argument favourable to the cause I advocate. The application of mercury was not put in practice until the eighth day of the eruption; and though its exhibition was attended with considerable benefit, it did not prevent the suppuration; and the patient left the hospital perfectly cured, but covered with cicatrices.

It now remains for us to examine the mode of action of the metallic substance which operates such marvellous effects. Here, again, we cannot do better than call to our aid [the lucid ideas of M. Briquet, who is indefatigable on this subject. In the "Archives" for Sept. 1839, we find an article devoted to the consideration of the action of mercury in variola. According to the author of this interesting memoir (I fully adopt his views) we are forcibly obliged to admit one of the two following explanations:—

1. The mercury acts as an antiphlogistic or resolutive, in destroying or suppressing the local inflammatory process; or,

2. It exercises a specific action on the cause, whatever it be, which produces the variolous pustule.

In order to solve this interesting problem, he began by examining with care the effects of mercurial topics on the different sorts of inflammation of the skin. Artificial cutaneous phlegmasiæ were the most simple; he commenced with them. He first applied the Vigo plaster cum mercurio, which he left for twenty-four hours on the skin; and on its removal, he excited inflammation by

* Since I wrote the above, I have received a communication from my respected friend, Dr. Podaliri, of Rome, who informs me that he has been always in the habit of applying mercurial ointment to the eyelids, and round the lips of his variolic patients, and that he has universally remarked the *total absence* of *pustules* on the parts covered by the ointment. Had Dr. Podaliri, in the course of his extensive practice, *generalised* this method, to him would have belonged the honour of creating the new treatment.

means of cantharides, tartar-emetic ointment, frictions with croton oil, &c., and he always observed that the previous application of mercury had exercised no prophylactic influence with respect to the appearance or course of the inflammatory symptoms.

He next investigated the action of mercury on incipient inflammation, as the following experiment will elucidate.

1. Two plasters of equal dimensions, the one Vigo, the other diachylon, each covered with a little powder of cantharides, were applied to the thighs of a typhoid patient, and raised after the expiration of twenty-four hours; the vesication produced by each was perfectly identical.

2. In ten or twelve cases of chronic arthritis, frictions were made with tartar-emetic ointment, or with the croton oil; and over the inflammation caused by these applications, plasters of diachylon and Vigo were applied, *and in no cases were the pustules under the mercury less violent, nor less numerous than those which were subjacent to the adhesive plaster.* M. Briquet chose the diachylon, because he had previously ascertained that this topic was quite inert in variola. The same experiments were repeated in cases of inflammations already formed, and with the same result. The inflammations to which we have been alluding, M. Briquet termed *artificial*, in contradistinction to those belonging to different pathological affections, and which may be styled *natural*. In the latter, also, it was indispensable to examine the action of mercury used topically, and here the facts become more complex; for the inflammations are variable in their course, duration, intensity, &c., and susceptible of being modified by divers circumstances. "Let us take a case of erysipelas," says M. B., "which is a malady of irregular duration; and how shall we be able to distinguish the modifications caused by mercury, from those which the disease itself may experience?"

M. Ricord asserts, that he has obtained considerable benefit from the employment of the Vigo plaster in erysipelas, zona, pemphigus, exzema, acne, &c.; but I am bound to mention, in opposition to the opinion of our worthy and gifted President,* that his experiments have been repeated by Messrs. Lisfranc and Velpeau, who assert, that in all cutaneous diseases to which they have applied the mercurial plaster (variola excepted), its exhibition has been attended with no beneficial effects. This constitutes, in my opinion, one of the strongest arguments against its *generalisation* (permit me to use this expression).

It furthermore appears that the external use of mercury in the *vaccine eruption*, produces effects identical with those which we have described in the variolic exanthem; namely, the *complete annihilation*, in most cases, and, *in all*, the arrest of the progress of the virus. With respect to inoculation with the pus of variola, M. Dezeimeris relates, in the journal "L'Expérience," a curious case, which is in point here, and which occurred in Lunenberg, in 1791, in the practice of Dr. Lentin. A child having been inoculated with the small-pox, and accidents supervening, they were stopped by the doctor, who applied, over the eruption, a certain quantity of calomel, triturated with an emulsion of quinces.

I think it will now be admitted by all, that the mercury acts *specifically*; that it exercises a special action on the virus, whilst the latter yet exists in the *papular* state; but that it is often powerless when the pustules are developed. But, "thus far can we go, and no farther"—the following question is not, as yet, solved: "*How* does the mercury obviate the pustular eruption?"

"——adhuc sub judice lis est."

Here we must candidly admit our ignorance of the *modus operandi*; if we admit the existence of animalculæ, we may conceive that mercury kills them, as it does other parasitical beings, whose presence so incommodes the cutaneous system of men and animals; but M. Donné, whose late labours have raised microscopic observation to the rank of a science, deservedly dignified by the term *microscopie*, has not, as yet, been able to discover, in the variolic pustule, those living beings. Does the metal act as it does on blood, by diminishing its force of coagulation? Such are the problems which remain to be solved, and which afford a wide field for conjecture and research.

I have thought it necessary, Gentlemen, to dwell at length on the advantages to be derived from the mercurial treatment in variola; and I shall merely add, that several cases of the disease which have fallen under my own observation, and which have been treated according to the system I have advocated before you to-night, have corroborated and strengthened my view of the question; and have convinced me that, sooner or later, mercury must form the therapeutic basis in all the varieties of variola. What objection can be urged against it? The first, and principal one, that which naturally suggests itself to the minds of all, is the danger which may result from troubling the course and progress of the eruption, by "putting it back," to use the vulgar expression. But such objections can be founded only on *theories*, and theories can be fabricated at will; and, for my part, I do not think that a single *fact* can be instanced against the many triumphant cases of radical cure, which are now ranged on our side.

* M. Ricord, President of the Parisian Medical Society.

In advocating the local treatment, it will, of course, be understood that I admit the propriety, nay, the necessity, of associating with it the curative indications suggested by the general state of the patient.

Let us now conclude, that the topical mercurial treatment, commenced by M. Serres, and improved by M. Briquet, is the most salutary, and offers the fairest chances of success; that it is applicable to variola, in all the diversified forms assumed by the disease; that it *never* gives rises to dangerous accidents; that, if timely and properly applied, it changes the nature of the eruption; and, finally, that it is all powerful as a preventive of cicatrices. For my own part, I look on it as almost infallible: I adopt it as my pole-star in the treatment of those cases of variola which cross my professional path.

Pardon me, Gentlemen, for having occupied so considerable a portion of your time. If, in so doing, I shall have succeeded in directing your attention to a subject to which I have devoted much reflection and research, and which I consider of the greatest importance, I shall consider myself fortunate indeed; and I am convinced that the discussion which is now about to take place, cannot fail to add much valuable information to the stock of facts which I am collecting on the subject. It is in the hope, Gentlemen, that you will be so kind as to communicate to me your ideas and opinions on the treatment of variola, that I conclude by addressing all and each of you, in the words of the poet:—

"Si quid novisti rectius istis
Candidus imperti;—si non his utere mecum."

ANEURISM OF THE PULMONARY ARTERY.

To the Editor of THE LANCET.

SIR:—I am not aware that any surgical author or pathologist has hitherto noticed the occurrence of *aneurism*, in any other than the systemic vessels; and I was, therefore, not a little surprised and interested at finding, the other day, in a post-mortem examination which I made of a case of hæmoptysis, a well-marked example of aneurism of a branch of the *pulmonary artery*.

A priori, one would have thought that the thinness of the coats of the pulmonary arteries, their close proximity to the heart, and the great liability of the pulmonary tissues to diseased action, would have rendered these vessels especially obnoxious to aneurisms; though we are compelled to adopt an opposite conclusion, from the negative testimony which the silence of previous writers affords. It is possible, however, at the same time that we admit the infrequency of the disease in this system of vessels, that, from the necessarily hurried manner in which pathological investigations are often conducted, and from the attention of the profession not having hitherto been directed to the subject, cases may now and then have been overlooked.

I will briefly narrate the case which has occurred in my own practice. About three months since Mr. M., ætat. 41, of spare and strumous habit, complained of wheezy breathing and cough, accompanied with frothy, mucous expectoration. There was no febrile excitement, the pulse ranged from 90 to 100, appetite deficient: he continued to follow his employment. Considerable relief to the symptoms followed the administration of soda, with hydrocyanic acid and opium; and he did not consult me again till the 12th December, when he experienced a sudden attack of hæmoptysis, coughing up, all at once, about half a pint of venous-looking blood. The hæmorrhage recurred, to about the same amount, several times during the week following; and there was then an arrest of it till the 25th of December, when I was summoned to him in great haste, and found him in *articulo mortis*. He died suffocated; the quantity of blood at the last eruption not exceeding what had escaped in the former attacks. From the first bleeding, I had looked upon the case either as one of aneurism, which had burst into a bronchial tube, its fibrinous coagulum plugging up the opening from time to time; or that some considerable vessel had given way in a tubercular cavity.

The *autopsy* disclosed the following appearances in the thoracic cavity:—the lungs collapsed fully, were slightly emphysematous at the base of the lower lobes; and there were some old pleuritic adhesions, most firm at their apices. There was a trifling sprinkle of miliary tubercles, and several cavities, of the size of a walnut, in the upper lobes. In the left upper lobe was an evacuated cavity, two inches in diameter, and into it was seen jutting a distinctly defined *aneurismal sac*, as large as a nutmeg, which had burst by a cleft-like opening. The parietes of the sac were thin, and it did not contain any fibrinous layers. A vessel, the size of a small crow-quill, leading from a considerable trunk of the pulmonary artery, was distinctly traceable into the sac. The heart, with the exception of being unusually fat, was healthy; neither was there any morbid appearance in the aorta, or the large trunks given off from its arch.

I need not suggest the attention of the profession to the more minute examination, for the future, of the state of the blood-vessels in pulmonary hæmorrhages. I remain, Sir, your obedient servant,

S. W. FEARN, Surgeon, F. G. S., &c.
Derby, January 1, 1841.

SUBSTITUTION OF THE OXIDE OF SILVER FOR THE NITRATE.

To the Editor of THE LANCET.

SIR:—In THE LANCET of Dec. 12, Mr. Dawson suggested the use of iodide of potassium as a means of removing the cutaneous discoloration caused by a lengthened administration of the nitrate of silver. To this method of proceeding, Mr. Ray, in the number of Jan. 2, has, I think, very fairly objected, on the ground that, even supposing that the substitution of an iodide for an oxide could be effected, the former salt, which is of a greenish yellow colour, is equally insoluble in the animal fluids with the oxide, consequently there would be no greater probability of reabsorption. As Mr. Ray truly remarks, the nitrate of silver is a most valuable remedial agent: it certainly is not held in the estimation it merits; but could we rob its administration of the terrors with which it is surrounded, its aid would be much more frequently resorted to. Under these circumstances, I am anxious to direct the attention of your numerous readers to the proposition of my friend, Mr. C. H. B. Lane, to substitute the oxide of silver for the nitrate; by which he deems all the objections to which the latter is liable would be obviated, at the same time that all the advantages would be retained; the causticity would be avoided, and the transmutation of the salt to the state of an oxide in the cutaneous surface being anticipated, its transmission thereto would, in all probability, be prevented; for, as the cutaneous capillaries are not permeable for the ingress of the oxide, we have a right to suppose that they would be no more so for its egress. Mr. Lane published a paper on the subject, in the July number of the "Medico-Chirurgical Review," with numerous cases. Since then I have had many cases in my own practice, in which the oxide of silver has been most beneficially resorted to; by which I am led, in a great measure, to coincide with Mr. Lane's views. The notes of the cases to which I refer are in his possession, with a view to publication in a future number of THE LANCET; and I would strongly recommend the subject to the consideration of the profession. I am, Sir, your obedient servant,

THOMAS PHILIP DENNETT.

Storrington, Sussex, Jan. 10, 1841.

P.S.—The mode of obtaining the oxide of silver is simple; namely, by the addition of a due proportion of the hydrate of potass to a solution of the nitrate of silver, when the oxide is precipitated.

DEAFNESS AFTER TYPHUS FEVER.

To the Editor of THE LANCET.

SIR:—The prevalence of deafness after typhus fever is so great, and its distressing consequences so painful and lasting, that I am induced to call the attention of medical men to this most important topic. I think it will be allowed by all who have had any experience in aural surgery, that ulceration of the "membrana tympani," that fell attendant on typhoid symptoms, is the most serious of all diseases to which the ear is subject; and what is worse, is not only incapable of cure, but also of the slightest alleviation. I know a gentleman whose ears have been subject to a discharge for the last fifteen years, who had been under the care of Messrs. Stevens and Pilcher for a long period, and yet has not received the slightest benefit. The disease under which he labours is an ulceration of both membranes; one of which does not discharge, the other does at intervals profusely; it proceeded from a typhus fever: numberless instances of the same case are prevalent. I think that all will allow that nine cases out of ten of deafness in early life proceed from this cause; and there is no disease which entails so much misery on the patient as this, or which is so harassing and unpleasant. The aural surgeons admit the impossibility of its cure in the present state of our knowledge. Such being the facts of the case, it appears to me that surgeons should turn their attention to a means of warding off the evil; they ought to strike at the root of the evil. By paying particular attention to the state of the throat during the progress of the fever, so as to prevent the ulceration of that part from extending to the ear. Some application might be also made to the ear itself—some remedy for these symptoms in its earliest stage; for if not now, their zinc, their acetate of lead, their other choice medicines, are of no avail, and the unhappy sufferer is doomed for life to total or partial deafness, besides a disagreeable discharge which lasts for a considerable period. Ought this system to last?—ought not common charity to induce the medical profession to be up and stirring? let them once prevent the evil in the bud, then the aurists would be stripped of half their practice, and thousands of their fellow-beings would laud their benefactors, in having preserved to them the inestimable blessing of hearing; a blessing not to be equalled by any, not even by sight.

G. W. TUCKER.

10, Norfolk-street, Strand.

THE HUMANE SYSTEM OF TREATING THE INSANE.

To the Editor of THE LANCET.

SIR:—With reference to my letters of the 19th ultimo and 9th instant, which you were good enough to publish in your valuable Periodical, I beg again to trespass on your kindness, and request you to extend it still further by giving publicity to this letter, and the accompanying copy of a communication from Dr. W. A. F. Browne, physician to the Crichton Royal Institution, a gentleman already favourably known to the profession as author of the work entitled, "Asylums as they Were, &c. &c. &c." I feel convinced you will at once perceive the propriety of giving this communication a prominent place in your columns, as it not only furnishes us with excellent and lucid principles for our guidance in the treatment of insanity, in which the medical officers of six large asylums mainly concur; but it also bears particularly on the question now in agitation, and teaches that cases of insanity do occur in which the application of personal restraint is necessary. I assure you, Sir, that I feel considerable diffidence in requesting you to lay Dr. Browne's letter before the public, as it alludes with so much indulgence to mine, and, likewise, as it was written without any view to publicity, and with the freedom and unguardedness of private correspondence. Its contents, however, appear to me so valuable at this stage of the expression of public opinion on the treatment of the insane, that I consider it my bounden duty to transmit it to you; I beg leave, at the same time, to express the satisfaction I experienced at reading the last report of the Middlesex magistrates on the state of the Hanwell Asylum; Mr. Sergeant Adams in the chair. It must be highly gratifying to the friends of humanity to learn by it, that so many and such successful efforts are being made for the comfort and cure of that vast assemblage of our poor and afflicted fellow-creatures at Hanwell, under the able and humane direction of Dr. Conolly, the physician, and Miss Powell, the matron of that spacious establishment. It is, likewise, not less satisfactory to observe, that the Middlesex magistrates, profiting, no doubt, by their experience in attending to their duties as governors of that asylum, have been enabled to pronounce with so much wisdom and prudence on the treatment of the insane, and that they do not insist on the truth of the Utopian assertion, that "restraint is never necessary, never justifiable, and always injurious in all cases of lunacy whatever;" and it is to be hoped that the perusal of Dr. Browne's letter may tend to weaken still further any bias they may have had on the subject. These gentlemen expressed themselves on this *point* in the following terms:—"* The visiting justices on this, as on former occasions, are gratified in being able to report that the management of the insane in the asylum is carried on without personal coercion, and that nothing has occurred since the last report to shake their confidence in its final success. They think it due to the humane system to say this much, without committing themselves so far, as to deny the possibility of a case arising which may require a return to one or other of the old instruments of coercion."

I fear that I have already exceeded my limits, and therefore beg to conclude with many thanks for your kind indulgence, and to be permitted to have the honour to remain, Sir, your most obedient and humble servant,

ANDREW BLAKE, M.D.,
Physician to the Nottingham General Lunatic Asylum.
Nottingham, Jan. 27, 1841.

"Crichton Institution, Dumfries,
Jan. 13, 1841.

"Sir:—I was so much struck, not only with the judicious tendency of your letter contained in THE LANCET for December 19, 1840, but with the temperate and conciliating and candid tone which pervaded the whole of the production, that I have resolved to break through the ordinary barrier of etiquette, and express to you my perfect concurrence in your views of the question of passive coercion, I venture, at the same time, to transmit to you a copy of the annual report of the institution under my charge, in which my opinions and experience are developed. These are the results of ten years' observation, and constant association with the insane; and of as ardent a desire to ameliorate the condition of those entrusted to my charge, as any of my professional brethren can boast of. One of my principal reasons for thus unsolicitedly volunteering my correspondence is, that I conceive it highly desirable that the opinions of those entrusted with the treatment of the insane should be known to each other, and that I firmly believe such intercourse would tend to strengthen and support the views and course of those who advocate modified and occasional restraint upon grounds of humanity and science. While anxious for this personal communion, I have fully determined in no way to mingle myself up with the public controversy now going on, as it is evidently engendering a spirit which should be far removed from all such discussions, and giving, to what is purely a philosophical or medical inquiry, the aspect of a bitter party contest. In Scotland, we, that is, the physicians of the asylums at Glas-

* Vide *Morning Chronicle*, Jan. 22.

gow, Edinburgh, Perth, Dundee, Aberdeen, and Dumfries, are nearly unanimous upon the following principles:—First, that restraint may be dispensed with; secondly, that the absence of restraint affords no guarantee or proof of the non-existence of cruelty; thirdly, that there should be as little restraint as possible, and as is consistent with the comfort, cure, and improvement of the patients; fourthly, that restraint is occasionally necessary and humane; and, fifthly, that it should never be imposed but by orders of the medical men. Indeed, it is quite new to me to learn that a different custom obtains elsewhere. My successor in the Montrose Asylum, Dr. Poole, is the only one of my medical brethren, as far as I know, who advocated the total abolition of restraint; but, although arguing in favour of the doctrine, he adheres to the old practice, and has two out of seventy patients in muffs. Since the date of the inclosed report, I have had occasion to apply restraint in the three following cases, and in all of these I acted advisedly, after due reflection, from the most benevolent feelings, and from a conviction that I was doing that which was calculated to promote the comfort and cure of my unfortunate patients:—First, in the case of one, who had attempted suicide, with a deep gash from a razor in the throat, the slightest disturbance would have proved injurious to the wound, and even the motions of his body disturbed the dressing; secondly, in a case of chronic mania, with ulceration of the intestines, where the patient could not be persuaded, or forced, or dragged, to remain in bed; thirdly, in a case of nymphomania, where the hands were constantly in contact with the pudenda. I need not say that these applications were only occasional, and of as short duration as possible. Might I venture to ask for a copy of the excellent report of your asylum, from which I observed extracts in THE LANCET; whatever the result of this request may be, believe that I am with great respect your most obedient,

"W. A. F. BROWNE, M.D.,
"Physician, Crichton Institution for Lunatics.
"Andrew Blake, Esq., M.D., &c. &c."

HANWELL ASYLUM.

To the Editor of THE LANCET.

SIR:—Hurrah for "PHILALETHES!" I forgive him, from the bottom of my heart, for every offence he has committed. I will not even quiz his apology for his mistake about the Hanwell diet. One single sentence has redeemed all his errors:—

"I would that our pauper lunatics, instead of being crowded in a gallery, which presents a picture of misery, not to say of horror, were so placed, few in number, together, in what I will designate farm-house establishments."

It is my fervent hope and prayer that Hanwell may not perish in giving birth to her glorious offspring. Often, when in my capacity of "LOOKER-ON," my eye has wandered over the extensive pile; my delighted fancy has dwelt upon the day when the busy scene would be comparatively a desert—when the grand experiment, now so successfully progressing within its walls, would be fully developed; and the plan proposed in the golden sentence of "Philalethes" not lightly esteemed as the flight of a philanthropic visionary, but found to be as safe in practice as it is sound in theory. Go on, "PHILALETHES," you are now in the right path; follow up your principle, and if you do now and then commit an error in judgment, you shall receive my good opinion for your good intentions. I am, Sir, yours, &c.

A LOOKER-ON.

January 23, 1841.

LINCOLN ASYLUM.

To the Editor of THE LANCET.

SIR:—I will beg to be allowed an opportunity, through your Journal, of removing a blot dropped from the pen of Mr. Hadwen, upon the fair fame of the Lincoln Asylum, on a point which had earned, from the "British and Foreign Medical Review" for January, 1840, p. 153, the following meed of praise:—

"We think, indeed, that a pretty correct estimate of the general management of a lunatic institution may be made by observing the number actually under corporeal restraint. It is here as in a regiment; where severe punishments are frequent, the commanding officer will generally be found inefficient.

"In this particular, there is, apparently, no asylum in England which presents so remarkable a model as that of Lincoln. Of all the works that have appeared on the subject of lunatic houses, since the publication of Mr. Tuke's account of the Retreat, there is none which contains matter more deserving of attention than that recently published by Mr. Hill. This lecture is little more than a simple commentary on the resolutions of the board of management of the Lincoln Asylum for twenty years past; during which period, under the superintendence of Dr. Charlesworth, and latterly, with the vigilant co-operation of Mr. Hill himself, as house-surgeon, almost every kind of bodily restraint is stated to have gradually fallen into disuse as superfluous, or worse than superfluous, a mere substitute for want of watchful care. This great alteration of treatment, opposed to long practice and strong prejudice, and even to opinions

yet very generally entertained, has only been effected, it is said, by the most careful adoption of all the parts of a system of constant superintendence, of well-preserved classification, and of humane and effective practical management. Very happily for the inmates of the Lincoln Asylum, the managing board seems ever to have acted cordially with the medical officers; regulating even the building and arrangement with a view to curative effects, rather than to mere short-sighted economy. Thus, besides other advantages, a classification has become practicable, which answers the purposes of comfort, encouragement, safety, and cure."

In a letter which Mr. Hadwen published in your Journal, Sept. 12, 1840, the following observation appears:—

"That from last March to the present time, a period of only six months, restraint has been almost of daily recurrence, and has amounted to the extraordinary number of 1275 hours."

Consequent upon the above statement by Mr. Hadwen, the following sentence occurs in the British and Foreign Medical Review for January, 1841, p. 116:—

"At Lincoln, without any reasonable cause yet communicated to the public, restraints are said to have been resumed by one set of officers, after a long discontinuance by others."

In whatever light Mr. Hadwen may have intended his assertion above quoted to be understood, it is clear that the editor of the "British and Foreign Medical Review" has viewed it as exhibiting the system of non-restraint abandoned in its birth-place. Such a fact, if true, would cast a shade over the laurels which this institution has won, by being the first to strike a death-blow at the felon's chain and handcuff, the strait-waistcoat, the coercion-chair, &c., in the treatment of the insane; but what is far more important, it would have the baneful effect of injuring the great cause of humanity, by furnishing a triumphant argument to its antagonists. Happily, the truth will dispel both the delusion and the danger. Of the 1275 hours stated by Mr. Hadwen to have been "spent under restraint," eighteen and three-quarters only consisted of instrumental restraint. As a matter of justice towards the institution, I will add, that eighteen and three-quarter hours form the sum of instrumental restraint employed in the Lincoln Asylum during the four last years. I have the honour to remain, Sir, your obedient servant,

RICHARD SUTTON HARVEY,

A Governor of the Lincoln Asylum

Lincoln, Jan. 19, 1841.

Organic Chemistry, in its Applications to Agriculture and Physiology. By JUSTUS LIEBIG, Ph. D., Professor of Chemistry at Giessen. 8vo. 1840.

In the great portion of the work of the German professor, the subject treated of is the nurture of plants, and the source of their nourishment. The division to which we now turn our attention is directed to the discussion of the decomposition of organised bodies, and the several modes in which it takes place, in order to afford provision for a new and stronger race of beings; the new generation being raised on the ashes of the old. Organised bodies, when deprived of vitality, decompose; that is, the mechanism by which the waste of their substance is supplied being null and void, the chemical affinities of the component parts yield to the influences of the atmosphere, &c., which had been previously of secondary import, and give rise to new compounds, many of them of a more volatile nature. Liebig ascribes the decomposition of organic substances to three causes; *fermentation*, *putrefaction*, and *eremacausis*, or *decay*. The two former are rather popular than scientific terms. *Fermentation* is applied to those transformations in which gaseous bodies are evolved which are destitute of smell; while *putrefaction* designates those changes where volatile matter, possessing a disagreeable odour, is disengaged. The smell is, however, not a distinguishing character in a scientific point of view. The chemical difference lies in the fact, that in fermentation the objects decomposed contain no nitrogen, while in putrefaction nitrogen enters as an agent in the decomposition. *Eremacausis*, or decay, differs from fermentation and putrefaction, in the circumstance that it cannot take place without the presence of air, the oxygen of which is absorbed by the decaying body. Hence it is a process of slow combustion, in which heat is uniformly evolved, and frequently even light.

Fermentation and *Putrefaction*.—It is now known that an infusion of malt, which is a solution of sugar of the same species as that contained in grapes, together with vegetable matter, is capable of fermenting of its own accord. The principal phenomena of fermentation are the disengagement of carbonic acid gas, with the formation of a scum on the surface of the liquid fermenting. If a

small portion of this fermenting fluid be introduced into another portion of wort, fermentation is much more speedily produced than in the portion from which it was taken. When we inquire into the nature of this action, we find that it is due to the decomposition of sugar. To appreciate the greater facility of the decomposition of organic substances in comparison with inorganic bodies, we have only to bear in mind that inorganic bodies consist of a small number of atoms, while organic bodies consist of a pile of many atoms. Sulphate of potash, for example, an inorganic substance, consists of six atoms, while sugar contains thirty-two atoms; that is, each ultimate particle of sulphate of potash consists of one particle of sulphur, four of oxygen, and one of potassium. Sugar, again, in each ultimate particle, contains twelve particles of carbon, ten of hydrogen, and ten of oxygen. We should therefore expect, *à priori*, that the organic would be more unstable than the inorganic compound; accordingly sugar is resolved into alcohol and carbonic acid. But the change does not stop here, for alcohol readily is converted into vinegar; and carbonic acid may be deprived of an atom of oxygen, and be changed into oxide of carbon. Such is the theory of fermentation. Putrefaction is the result of the action of the affinities of the constituents of a body containing nitrogen, after being withdrawn from the organism. The facility with which bodies containing nitrogen decompose, is well exemplified in the cases of fulminating silver and mercury, iodide of nitrogen, &c.

The only example illustrative of putrefaction which has been carefully studied, is the decomposition of cyanogen, by Pelouze and Richardson. A solution of cyanogen in water becomes turbid after a short time, and deposits a blackish matter, which is a combination of ammonia with another body, produced by the simple union of cyanogen with water. A second transformation is effected by the cyanogen being shared with the elements of water; cyanic acid is thus formed, and hydrocyanic acid. Oxalic acid is also produced, and likewise ammonia, formic acid, and urea. From two elements, therefore, carbon and nitrogen with water, eight new substances are formed. We have an illustration of putrefaction in the fermentation of vegetable juices. When the juice of beetroot or parsnips is mixed with yeast, it ferments like a solution of sugar. But when the temperature is raised to 100°, gases possessing a disagreeable odour are given off, and no alcohol can be detected; ammonia, lactic acid, and manna, and gum, resembling gum arabic, remain. These three latter products weigh more than the sugar contained in the juice, even without calculating the weight of the gaseous products; they must, therefore, have been formed by the interchange of the elements of the sugar with those of the foreign substances also present; yeast, therefore, would appear to produce fermentation in consequence of its being in a state of decomposition itself: thence we might suspect that all other matters in a similar condition would excite a like action; and experiment proves the truth of this presumption. Muscle, urine, isinglass, osmazome, albumen, cheese, gliadine, gluten, legumin, and blood, when putrefying, excite fermentation, or putrefaction in a solution of sugar. Thus we can explain the circumstance that when urine putrefies no urea can be detected in it, as it has been converted into carbonic acid and ammonia.

Eremacausis, or *Decay*.—The substances which undergo this action are divisible into two classes: the first comprises those bodies which unite with the oxygen of the air, without evolving carbonic acid; and the second such as emit carbonic acid by absorbing oxygen. When colourless orcin is exposed with ammonia to the action of oxygen gas, beautiful red-coloured orcin is produced. Again, when humus is exposed to the air, it absorbs oxygen, and gives out carbonic acid; and Saussure has shown that moist woody fibre evolved one volume of carbonic acid for every volume of oxygen absorbed. If we boil fresh meat in a vessel, and then carefully close it from the air, we may preserve it for years; but if the smallest portion be in a state of decay, the action will be speedily propagated by contact to the healthy portion. Liebig considers this an instance of true *contagion*.

Of Poisons, Contagions, and *Miasms*.—We now come to the applications made by the author, of the discussions in the preceding part of his work to the remarkable changes produced in the human body by chemical agency. According to Liebig, the power to effect transformations does not belong to the vital principle; but each transformation is owing to a disturbance in the attraction of

the elements of a compound; and is, consequently, a purely chemical process. There is no doubt he admits that this process takes place in a different mode from that of the ordinary decomposition of salts, oxides, or sulphurets; but is it, he asks, the fault of chemistry, that physiology has hitherto taken no notice of this new form of chemical action? He argues that, as we are able in our laboratories to produce *formic* acid, *oxalic* acid, *urea*, and *allantoin*, all products, as the term goes, of the vital principle, it is obvious that this mysterious principle has many relations in common with chemical forces; and that the latter can, indeed, replace it; he therefore concludes that the expression, *vital principle*, must, in the mean time, be considered as of equal value with the terms *specific* or *dynamic* in medicine. Everything is specific which we are too ignorant to explain, and dynamic is the explanation of all that we do not understand.

In entering upon the subject of poisons &c., Liebig considers first the action of inorganic poisons. These he shows in accordance with the researches of Dr. R. D. Thomson, which have appeared in this Journal, relative to the therapeutic action of inorganic medicines to act primarily by their chemical agency. In his remarks upon the action of the mineral acids, he has fallen into an error, as has been shown by Dr. Thomson's paper upon the action of sulphuric acid on the cornea of the eye, LANCET, Oct. 31, 1840:—

"The action (says Liebig) of sulphuric, muriatic, and oxalic acids, hydrate of potash, and all those substances which produce the direct destruction of the organs with which they come in contact, may be compared to a piece of iron, which can cause death by inflicting an injury on particular organs, either when heated to redness, or when in the form of a sharp knife. Such substances are not poisons, in the limited sense of the word, for their injurious action depends merely upon their condition."

Now, in the paper already alluded to, it has been proved that sulphuric acid, in its primary action, destroys a portion of organism, by forming a chemical compound with the matter with which it comes in contact, and in a manner totally distinct from a hot iron. The death of the organism is produced in a mode exactly analogous to that in which corrosion is produced by nitrate of silver, acetate of lead, &c. But when a hot iron is applied to a muscle or membrane, the organic matter, instead of being disorganised gradually, and deposited in a solid form, is at once volatilised.

Liebig shows that neutral salts act by absorbing water from organs, and rendering the solution in which they exist more dilute. Fresh meat, over which salt has been sprinkled, is found after 24 hours to be swimming in brine, although not a drop of water has been added. The water has been yielded by the muscular fibre, and having dissolved the salt in immediate contact with it, and thereby lost the power of penetrating animal substances, it has on this account separated from the meat. *Saline purgatives* act by absorbing water from the tissues with which they come in contact. The composition of the salts has nothing to do with their purgative action. It is quite the same whether the base be potash, soda, or, in many cases, magnesia; and whether the acids be phosphoric, sulphuric, nitric, or hydrochloric. We think we can see the mysterious vitalist shake his head and ridicule this statement. These, however, are eternal facts. It remains for him to show that it is not the only element in the action of purgatives. Experiment alone can substantiate his surmises—his vital and dynamic hypotheses. We by no means deny that there is an action besides the chemical necessary for the operation of purgative salts: on the contrary, we firmly believe that there is such an action. But we ask of the vitalist to determine by experiment what that action is, and how it co-operates with the chemical influences. The relations of salts to water throws much light upon their action with organic matter. Purgative salts absorb water, and do not combine with the tissues. On the contrary, metallic oxides are extracted from the water, and combine with the animal matter. Corrosive sublimate and arsenic poison by corroding, that is, combining with the tissues. The proof that they have combined is evidenced by their preserving the parts with which they come in contact from putrefying. The compounds of arsenic, which have not the property of entering into combination with the tissues of the organism, are without influence on life, even in large doses. Alkarsin, discovered by Bunsen, is an example of this; and the new compound, described by Dr. Schafhaeutl, at the British Association at Glasgow. This is developed in immense quantities at the smelting-works in South Wales, where abundance of arsenic

exists in the atmosphere, and is breathed by the workmen, but in such a state that no deteriorating influence is produced. The same observation applies to the compound formed when wax candles, containing arsenic, are burned. Our readers will remember that, some years ago, protracted discussions were engaged in, and lecturers were employed to prove that death could be produced by the snuff of a candle. But a careful attention to the facts of the case, as elicited by an acquaintance with organic chemistry, and its applications to medicine, will satisfactorily show that the fears created on that occasion were futile, and probably originated with some monopolising speculator.

During putrefaction, it is well known that certain substances are produced which are capable of producing serious diseases: thus, in the dissecting-room, wounds produced by the dissecting knife give rise to a peculiar form of inflammation, and affection of the glandular system. The cause of this must have been generated after death, for the living body possessed no such power; it must, therefore, have been the result of putrefaction, which Liebig has shown to be a variety of fermentation. Several hundred cases are on record of death from eating bad sausages. In Wurtemberg these cases are very frequent. When not properly prepared, these sausages undergo a peculiar kind of putrefaction, which begin at the centre of the sausage; they become paler in colour, and they are found to contain free lactic acid, or lactate of ammonia; products which are always formed during the putrefaction of animal and vegetative matters. Boiling water and alcohol destroy the poisonous principle. Colin has shown that muscle, urine, cheese, cerebral substance, and other matters in a state of putrefaction when placed in contact with sugar, cause it to putrefy or ferment. The instance of dissection wounds proves that a substance is produced from the putrefying blood which is capable of communicating the same action to sound blood, exactly in a manner analogous to the influence exercised by putrefying gluten upon a solution of sugar. Poisons of the same nature are generated by the system in particular diseases. In small-pox, plague, and syphilis, a minute portion of organic matter is introduced upon the abraded surface of the body of a healthy individual; speedily fever sets in; an eruption appears over the whole body, and poison is produced at various points similar to that which was introduced into the system in such an imponderable form. Hence the parallel between *fermentation* and *eruptive* diseases of the kind which we have mentioned. Another analogy is found between the virus of diseases and putrefaction, viz., that the same causes render both inert. The temperature at which water boils, contact with alcohol, acids, salts of mercury, &c., completely destroy their action. It is obvious, from the contemplation of the phenomena which occur when the matter of small-pox is mixed with the blood, that a change or transformation takes place in that fluid, which is not arrested until all the particles which are capable of change have undergone the metamorphoses. This is precisely characteristic of fermentation and putrefaction—the action commenced is communicated to the neighbouring particles by *contact*. These changes are so analogous, and therefore so chemical, that none but a person unaccustomed to view such transformations will ascribe them to a vital action. This principle is only known to us through the peculiar instruments or organs which are its movers. But whatever kind of action a substance presents, if it is not revealed by any visible form—if we cannot perceive any organ from which the impulse of the movement, or of the transformation, proceeds, we are certain that it does not live; its action is then purely chemical, and is more or less modified by heat, &c. It is thus that the vital force modifies the effect of chemical action. All those substances which we term food, and all the bodies formed from them, are chemical combinations, in which the vital force has no other resistance to overcome in producing the elements of the organs, than the chemical forces which maintain them in union.

All the facts with which we are acquainted, are opposed to the idea that contagious matter is possessed of life. These effects, it is true, have certain points of resemblance to processes in the animal economy; but the cause of these actions is simply a chemical action, which can neutralise other chemical actions exercised in a contrary direction. Some poisons generated in the body, lose their power in the stomach. Examples of this are presented in the poisonous matter of the contagious fever of cattle, and that of small-pox; the free acid in the stomach destroys the alkaline action of the poison. The

poison of sausages is acid, and acts through the stomach.

The parallel between fermentation and the generation of disease in the blood is sufficiently striking; thus yeast, putrefying meat, and rennet, in a state of decomposition, when introduced into solutions of sugar, effect the transformation of the substance without being themselves regenerated. In the same manner, miasms and certain contagious matters produce diseases, by communicating the state of decomposition, of which they themselves are the subject, to certain parts of the organism without themselves being reproduced. The disease in this state is *not* contagious; but when yeast is introduced into a mixed liquid containing both sugar and gluten, such as wort, the act of the decomposition of the sugar effects a change in the form and nature of the gluten, which is in consequence also subjected to transformation. The reproduction, therefore, of the exciting cause depends upon the presence of that substance from which it was originally formed, and upon the presence of a compound, which is capable of being decomposed by contact with the exciting body. Susceptibility to contagious disease indicates the presence of a body capable of reproducing, by contact, with contagious matter, the matter itself. The susceptible cause may be produced in the blood by the mode of living; a superabundance of strong and otherwise wholesome food, uncleanliness, or the use of decayed substances. Liebig thus explains the distinction between cow-pock and small-pox. The action of the virus of cow-pock is analogous to that of low yeast; it communicates its own state of decomposition to a matter in the blood, and from a second matter is itself regenerated, but by a totally different mode of decomposition; the product possesses the mild form, and all the properties of the lymph of cow-pock. The susceptibility of infection by the virus of human small-pox must cease after vaccination, for the substance to the presence of which this susceptibility is owing, has been removed from the body by a peculiar process of decomposition, artificially excited. But the failure of vaccination in many cases shows that the substance may be again generated in the same individual, so that he may again become liable to contagion; and a second or a third vaccination will again remove the peculiar substance from the system. Contagious matters may readily gain access to the blood through the lungs, where the process of cremacausis is continually purefying that fluid by respiration. *Contagion* is nothing more than the product of a disease undergoing decomposition. *Miasm*, again, is the product of the decay or putrefaction of animal and vegetable substances. These views enable us to understand how chlorine, and other disinfecting bodies, destroy contagion, and prove that their operation depends upon their chemical influences. We have thus endeavoured to give a brief outline of the contents of this valuable report, which may be considered the first attempt to grapple with the realities of contagion; that mysterious class of agents which has so long constituted the opprobrium medicorum. We recommend its careful perusal to all who are really interested in the *science* of the profession—to all who are anxious to practise medicine as men of knowledge, in opposition to empirics. We cannot conclude without congratulating the author upon the admirable manner in which the English translation has been executed.

On Diseases of the Hip-Joint; with Observations on Affections of the Joints in the Puerperal State. By WILLIAM COULSON, Surgeon to the Magdalen Hospital, &c. With plain and coloured Plates. Second Edition, with Alterations and Additions.

THE former edition of Mr. Coulson's work on the hip-joint is already well and favourably known to the profession. The present volume, however, considerably enlarged and improved by "alterations and additions," bids fair to become a work of very general reference to every practitioner who may be called upon to treat the very distressing group of diseases which form the subject of the author's investigations. The work is evidently written by a man of sound practical information, by one who has pursued with ardour the numerous phenomena of the diseases in question, has carefully weighed the opinions and researches of other authors, and has left no effort untried to produce as complete a volume as the state of knowledge in this department of pathology admits.

To furnish our readers with the means of forming an opinion upon the nature of the work, we will indicate the plan which the author has pursued in developing his sub-

ject. In the first chapter, "On Inflammation of the Hip-joint," the symptoms are fully and ably detailed, and are succeeded by separate sections on the "Morbid Anatomy," "Pathology," "Causes," and on the "Treatment" of the disease.

The second chapter is engaged by the consideration of the "Nervous Affections of the Hip-joint," comprising "Hysterical Affections," "Sciatica," and "Paralytic Affections of the Lower Extremity." A third chapter is devoted to the malignant diseases of the hip-joint; viz., Carcinoma, Fungus Hæmatodes, and Medullary Exostosis. The fourth chapter includes "Congenital Affections of the Joint," viz. "Congenital Displacement of the Femur," and "Osseous and Muscular Malformations." And the fifth chapter, the "Puerperal Affections of the Joints," describing their "symptoms," "morbid anatomy," "pathology," "causes," and "treatment."

In the section on the pathology of disease of the hip-joint, the author discusses the two opinions relative to the origin of the scrofulous form of this affection; the one more generally received and having for its authorities Doerner, Albers, Rust, Sir Benjamin Brodie, &c., supposing a pre-existing inflammation in the tissue of the bone; the other, from "the appearances which I have observed on dissection in the earliest stage of the disease, lead me, on the contrary, to infer that the disease commences most frequently in the synovial membrane, that the round ligament is very early destroyed, and that the disease of the cartilage and bone usually follows that of the membrane."

Mr. Coulson thinks his opinion confirmed by a case which occurred to Mr. Key, where the synovial membrane investing the ligamentum teres was exceedingly vascular, and was accompanied by an ulcerated spot upon the cartilage covering the head of the femur; by the observations of Cruveilhier, and by several cases which have fallen under his own eye in the course of an extensive practice.

In determining a question of this kind by means of the laws which regulate the science of pathology, or, in other words, the physiology of disease, it is exceedingly important to be thoroughly conversant with the minute structure and the physiological phenomena of the component textures of the system in their normal condition. Taking such a view of the subject, it is evident that the osseous tissue is an organisation endowed with a high degree of vascularity; that the vessels of the epiphysis of a bone enjoy in the young subject a maximum of activity, in order to enable them to perform the threefold office, of supplying the means of nutrition to the growing bone, of fulfilling the functions of nutrition and growth to the cartilage, and of supplying the synovial membrane to the extent necessary for the secretion of the synovial fluid. Cartilage, on the other hand, and the synovial investment of cartilage in its normal state, are extra-vascular, no vessels carrying red blood have as yet been traced into their structure, they are nourished by the liquor sanguinis, which permeates their texture under the influence of endosmosis. From this view of the nature of the structures in health, theory would seem to indicate a physiological reason for the origin of the lesion in the bone; the morbid condition of the bone disturbs the nutritive functions of the cartilage, and this suffers secondarily, while, perhaps, indications of visible disease in the osseous structure are scarcely detectable. Again, the first movements of lesion of a bone affecting equally the surrounding textures, becomes a source of irritation to those which are well supplied with vessels. The synovial membrane of the ligamentum teres so abundantly supplied with blood by one or two large arterial twigs, would in this case be the first to suffer; it would become congested, inflamed, as in Mr. Key's case, but the bone might as yet be unmarked by the traces of disease.

This, we say, is the kind of reasoning which would induce us to take side with the majority, and entertain an opinion opposite to that of the author. Our readers, on perusing the work, might, on the other hand, be induced to think with Mr. Coulson, and we feel quite satisfied that we can safely recommend his volume to their criticisms. They will find it to be well stored with practical information, and a valuable text-book for reference in the diagnosis and treatment of diseases of the hip-joint.

UNIVERSITY COLLEGE HOSPITAL.

EXCISION OF THE HEAD OF THE HUMERUS.

J. M., shoemaker, married, aged 28, of sober habits, swarthy complexion and middle stature, was admitted October 15, under the care of Mr. Liston, on account of disease of the shoulder-joint. He has always been healthy and well until the last few years, and has never had a day's illness, except what has been caused by the affection now complained of. He has for many years noticed great weakness and pain, from continued exercise, in the left arm; and, indeed, he recollects that, even when a boy, he never could use the left arm in the raised position, as in cleaning windows, without becoming unusually fatigued, and feeling an aching pain in the shoulder. He is not aware of having received any injury at this, or at any subsequent period, which could account for the symptoms; and he always considered that the weakness was "natural to him." After working at his trade, he always found his left shoulder and arm ache for some time; and though he could lift weights readily with it, or, in short, do anything with the limb hanging by his side, he soon felt fatigued in his left shoulder whenever he was obliged to throw out his hands, as in stretching, or to work with the elbows at all raised. It is now about four years since that he has suffered so much pain as to make him consider the matter of any consequence. At that period a dull gnawing, aching pain began to be felt in the shoulder extending down the arm, and often also in the bend of the elbow. At first this pain was at considerable intervals; but as he still continued his work it recurred more and more frequently, increasing at the same time in severity until about two years since, when he was forced to give up work altogether. At this period he says his shoulder and arm were wasted and thin, and constantly felt as if they were colder than the opposite side. There was also tenderness when he pressed his finger under the point of the shoulder, and nowhere else. He was obliged to keep his hand in a sling, and "if," as he expresses himself, "he attempted to use it, his arm fell to his side as if dead." After taking medicines and using embrocations, supplied from a dispensary which he attended for a short time, he applied to and was admitted into St. Thomas's Hospital. Here he remained for five weeks, keeping his arm quiet, and rubbing croton oil occasionally over the shoulder, so as to keep up a copious and painful eruption. He then left the hospital unrelieved, and entered St. Bartholomew's, where he remained about fifteen weeks; first under the care of a physician, who ordered cupping, leeching, and electricity, without effect; and then under Mr. Stanley, who bound his arm firmly to his side, and kept a blister open over the shoulder for several weeks. When he went out of the hospital, which he did, to enter Islington workhouse, he says he was somewhat relieved. He, however, still continued to feel pain, though of a less severe character, and he could not use the limb without great suffering. He also says that when any one moved his arm about, he felt the shoulder grate as if the joint were gritty. After being in the workhouse some time, he was directed to commence using his arm again as much as possible. The consequence was, that about eight months ago his shoulder became very painful, hot and tender, and a swelling began to form, and gradually increased for about four months; when, having attained the size of a hen's egg, it was opened at the back of the shoulder. A large quantity of curdy matter escaped, and a similar fluid has continued to be discharged from that time to the present. The patient says that he has suffered much more pain in the limb since the abscess was opened than he did before; and of late it has extended as far as the wrist, and the back of the hand. His health has suffered from the discharge; and he has lost both strength and flesh, though his appetite continues to be pretty good. The symptoms on admission are, constant gnawing pain in the shoulder, &c., as before described, worse at night than in the day, and increased on motion, and more particularly by abduction of the limb. Tenderness over the region of the shoulder-joint and head of the humerus, and considerable loss of power in the whole extremity. Besides this, there is wasting of the arm and forearm; flatness of the shoulder, and crepitation when the head of the humerus is made to rotate against the glenoid cavity. There is a small opening on the posterior aspect of the joint, which leads to a sinus running in the direction of the head of the humerus: this Mr. Liston enlarged with a bistoury, and putting his finger into the wound, he could feel the exposed and rough bone to a considerable extent. The discharge is of a fœtid odour. The patient's bowels are open; the tongue clean; appetite pretty good; urine natural.

Oct. 20. Mr. Liston considering this a favourable case for excision of the diseased parts of bone, determined on performing the operation in a few days.

26. The patient being placed in the sitting position, with the left arm and shoulder exposed and free, Mr. Liston commenced the operation by entering his bistoury deeply beneath and behind the acromion, and cutting upon the head of the humerus vertically downwards to the extent of about three inches. From the upper angle of this incision he cut horizontally forwards, making another incision at right angles to the first, and about two inches in length. The thick angular flap thus marked out was dissected away from the bone, and held back whilst

the shoulder-joint was more freely exposed and opened from behind. The operator then taking hold of the arm, and drawing it forcibly across the chest, caused the diseased head of the humerus to be dislocated from the glenoid cavity, and appear out of the wound. The saw was at first applied to the neck of the bone, but finding that by this means an abscess in the head of it was opened, Mr. Liston made a fresh section of the shaft a little lower down, and removed the whole of the diseased parts. As the glenoid cavity felt smooth and healthy to the finger, none of the scapula was removed, and the patient was conveyed to bed, lint soaked in cold water having been first applied over the wound. Only two arteries required ligature. Six hours after the operation, all hæmorrhage having ceased, the coagula were cleared away, and the wound brought together, and retained in position by three points of interrupted suture and strips of isinglass plaster.

27. Patient passed a restless night, and is flushed and feverish this morning; pulse frequent, skin hot, tongue furred. Diffuse redness and tenderness in the neighbourhood of the wound; bowels open. He was ordered to take two tablespoonsful of the following mixture every two hours:—Three grains of extract of aconite, and six ounces of camphor mixture. Low diet. The sutures were removed, and hot fomentations frequently applied to the shoulder.

28. Less feverish; pulse still rapid, 120, though softer; heat and redness about the shoulder diminished. The patient passed a sleepless night, and is very restless and irritable: he seems to think it impossible that he should recover. To have an eighth of a grain of muriate of morphia two or three times a-day.

29. Better; pulse 96, soft; tongue clean; bowels open; slept a little last night; pain much less severe; redness about the wound very slight; fomentations continued occasionally.

31. Going on favourably; the wound is no longer red and irritable; suppuration is proceeding, and the sloughs are daily separating with the discharge; red-wash dressings; spirits better. To have a quart of beef-tea, two eggs, &c. daily.

Nov. 2. Appears pale, and rather weakened by the discharge, which is copious, rather offensive, and mixed with slough and gritty matter; perspires freely at night; pulse rather weaker; skin cool. To have a mutton-chop daily; and a draught, consisting of bark and dilute sulphuric acid, twice a-day.

6. Wound closing gradually; discharge healthy: patient takes a pint of porter daily. The arm is now kept fixed to the side in a perpendicular position, with the forearm across the chest, by means of Desault's bandage for fractured clavicle.

20. Some prominent granulations touched with sulphate of copper. Two pints of porter daily.

28. Nearly well; continue the bandage and sling; health much better; has now some colour in his cheeks, and is in good spirits.

Dec. 8. Wound has been completely closed for upwards of a week; the shoulder feels very comfortable, and free from pain; general health very good.

14. Discharged cured. The patient is now in excellent health, compared with what he has experienced for a long period back; he never suffers from any pain in the shoulder, and "feels quite another man;" he still has his arm bandaged to his side, and supported by a sling, Mr. Liston not wishing that he should be premature in trying to regain the use of the limb.

DISLOCATION OF THE HEAD OF THE FEMUR INTO THE THYROID FORAMEN.

L. B., a small shopkeeper, aged 42 years, was admitted Nov. 11, 1840, under Mr. Liston, about 11, A.M., with dislocation of the hip. He is rather above the middle height; spare habit of body, but tolerably muscular; in the enjoyment of excellent health.

Whilst walking in the streets yesterday evening, about nine o'clock, his foot slipped, he thinks, over some orange-peel, and, after making a stumble forwards, he fell into the kennel, striking his right hip against the kerbstone. The accident happened so suddenly, that he does not know whether his feet were much separated when he slipped; he used great exertion at the time to prevent himself from falling. He felt some pain from the blow, but not very much, and he was not aware at first that he had injured himself to any extent. When he attempted to get up, he found he could not use the limb in the least; he was taken home and put to bed, but he could not sleep, owing to severe pain in the groin. This morning, as the pain continued, he sent for medical advice, and was recommended to come to the hospital. When the patient's clothes were removed, and he was made to stand as well as he could, the following appearances presented themselves:—The body was inclined forwards, and slightly to the right side, and any attempt to assume the upright position caused great pain in the groin; the right thigh was somewhat advanced in front of the other, and considerably abducted from the middle line; measuring, from the anterior superior spinous process of the ilium to the patella, it was fully two inches longer than the sound thigh. There was a deep, abrupt hollow in the situation of the trochanter major, and unnatural fulness and prominence of the inner part of the thigh close to the scrotum; the foot rested nearly flat on the ground, but turned slightly outwards. On further examination, it was found that a hard, round, prominence existed in the upper and inner part of the

thigh, apparently under the adductor muscles, whilst the trochanter major could not be felt even when the fingers were pressed firmly into the hollow before mentioned. With regard to the motions of the joint, they were all more or less abridged; the thigh could be flexed upon the pelvis, and could also be still further abducted from the opposite limb; but it could not be drawn backwards, nor made to approach the middle line. The patient suffered considerable pain in the groin and inner side of the thigh, increased by motion. The case was evidently one of dislocation of the hip into the thyroid foramen. Reduction was effected in the following way:—The patient was first laid on the left side, a mattress having been placed on the floor of the operating theatre in such a situation, that the pulleys might be fixed in the requisite direction. A broad wet roller was applied round the thigh immediately above the knee, and a broad leather belt, with straps attached, was firmly buckled over this; the compound pulleys were then hooked by one extremity to rings in the leather straps, and by the other to a staple firmly fixed. Counter-extension was effected by means of a perinæal band, passed between the scrotum and thigh on the affected side, and fixed to a firm staple behind the patient's shoulder. A long towel was also passed round the ends of the perinæal band (opposite the crista of the ilium), and round the pelvis itself, and held by an assistant placed on the left of the patient. Mr. Liston stood on the patient's right with a broad belt passed under the thigh, by which to lift the bone up, when it was sufficiently drawn from the thyroid foramen. Extension was now made slowly and steadily, and whilst an assistant carried the whole limb across the opposite one, Mr. Liston raised the thigh by the broad belt, at the same time pressing the pelvis downwards in the opposite direction with his knee; by this means the reduction was easily accomplished. No noise was audible, but the patient was immediately sensible of a tearing feeling, and then the limb felt easy. The apparatus being removed, it was ascertained that the motions of the limb were restored, whilst all deformity had disappeared. The limb was measured and found to be of the same length as the other, although it still looked rather longer. He was discharged cured in a few days, with orders to keep his limb rested, and not walk much for some time.

BRONCHOCELE TREATED BY LIGATURE.

F. G., an exceedingly diminutive, little girl, 13 years of age, was admitted October 13th, with a large bronchocele, which her friends wish to have removed, in consequence, principally, of the disfigurement which it causes. She has always had a slight swelling in the neck a little on the right side of the middle line, which has increased very rapidly within the last two years; it is now about the size of a small orange, situated in front of the sterno-mastoid, and extending from the clavicle nearly to the lower jaw; it is soft, slightly moveable, and not adherent to the skin; the pulsation of the carotid is communicated to it, when pressure is made on it backwards, but not when the tumour is grasped in the fingers placed on each side. The child does not suffer any pain in it, nor does it impede respiration, except when she laughs, and then it appears to press upon the windpipe; there is no tenderness over the tumour, and the skin is of its natural colour; the general health is pretty good; bowels regular.

Oct. 26. Mr. Liston having determined to tie the tumour, proceeded to perform the operation to-day. An incision was made over the tumour, extending through the skin, in the direction of the sterno-mastoid; the integuments were then dissected away from the subjacent growth, and held aside by assistants, so as to expose fully the base of the tumour. Mr. Liston then passed ligatures at the base of the tumour in the same manner that he employs them in erectile tumours, and fairly strangulated the diseased growth. There was pretty smart venous hæmorrhage during the operation, but this was stopped as soon as the ligatures were tied, by wrapping a strip of dry lint round the neck of the bronchocele; the patient was then put to bed; cold water to be applied over the part at short intervals.

27. The patient slept tolerably well last night. She complains this morning of some pain in the throat and head; bowels not opened since yesterday morning; tongue white; pulse frequent; still some bleeding when the patient coughs. To take a dose of castor-oil directly.

28. More comfortable; much less pain in the tumour, which is now getting darker-coloured; still slight oozing of blood occasionally.

31. Going on well; the tumour is now quite dry and black on the surface, and smells offensively; bowels kept open once a-day, by giving a dose of castor-oil in the morning.

Nov. 2. Hæmorrhage came on suddenly this morning at five o'clock; nearly half a pint was lost before it was arrested; the patient fainted; a piece of lint was wound firmly round the base of the tumour, and the hæmorrhage thus completely commanded. Wine and water, in small quantities, at frequent intervals, until the patient recovers.

11. Has been going on well since last report. She has been much relieved by the removal of the dead parts of the tumour; nearly the whole of it has now separated, and the wound appeared quite clean and healthy this morning, and was dressed as usual. About one, P.M., whilst the child was eating her dinner, bleeding suddenly

came on, and that so rapidly, that several ounces were lost before assistance could be obtained. It was found that the hæmorrhage was venous, and proceeded from the upper angle of the wound; it was soon checked by the application of cold, and then a graduated compress and roller were applied, and the child, who was faint and frightened, put to bed.

25. Discharged. To attend as an out-patient.

Dec. 4. Patient came to-day. Wound healed, with the exception of a very small part, which is dressed with a weak solution of sulphate of copper. There is still a little fulness and puffiness around the cicatrix. To have a draught containing iodide of iron twice a-day.

STRANGULATED INGUINAL HERNIA.—OPERATION.

Charles Gregory, a healthy-looking young man, admitted Nov. 29, 1840: he is a baker by trade, and has to stoop over the trough for a length of time together, using considerable exertion in kneading: to this he attributes the fact, that he has laboured under hernia for nearly four years.

The rupture has frequently descended, but he has always been able to put it back, with the exception of a small portion which always remained in the upper part. He has always worn a truss when walking about, until within the last four months, when it became unfit for use, and he did not get another. On the night of the 28th, about twelve o'clock, he slipped in consequence of the frost, and using great exertion to save himself from falling, he suddenly felt the hernia come down with a painful sensation. He went home and tried to reduce it, but without his usual success: a friend who was with him also tried to put it back, but with the same result. He vomited several times during the night and morning; his bowels were moved about two o'clock, A.M.; some pain and soreness have lately made their appearance in the lower part of the belly.

Present state: a hard, tense, rounded swelling, about the size of a large orange, occupies the upper part of the scrotum on the right side; and extends upwards and outwards, by a narrow neck, in the direction of the inguinal canal. Impetus on coughing is felt when the neck of the tumour is grasped, but not the slightest feeling of the kind can be ascertained when the whole back, or lower part of the swelling, is taken hold of. The cord cannot be felt in the inguinal canal. The right testicle somewhat enlarged (having been lately much inflamed), together with the epididymis, and commencement of the spermatic cord, is distinguished at the lower part of the scrotum, behind and beneath the hernial tumour; there is some pain and tenderness in the swelling; but both this and the pain in the abdomen are better than they were in the night.

The patient complains of nausea, but has not vomited lately; he is occasionally annoyed with hiccough.

Immediately on the patient's admission he was made to lie on a bed, with his shoulders slightly raised, and his right thigh lifted by an assistant, and somewhat rotated to the opposite side.

The taxis was then tried for some minutes in the direction of the inguinal canal, the right hand grasping the tumour, and pressing gradually, whilst the neck of the hernia was steadied with the fingers and thumb of the left hand; as no impression was made, the patient was then put into a hot bath (106 Fahr.), and allowed to remain there until he felt quite faint; this happened in about half an hour, when another attempt was made to reduce the swelling, but equally unsuccessfully. Mr. Liston was then sent for, and the patient informed that an operation would be necessary, unless the tumour could be pushed back; Mr. Liston arrived about half-past one, P.M., and after trying the taxis, and perceiving that the hernia was unyielding, he at once proceeded to operate. An incision was made, about three and a half inches long, over the prominence of the swelling, commencing opposite the upper extremity of its neck; this divided the skin and some cellular membrane, together with two arteries, which were immediately ligatured; some more membrane (spermatic fascia) was then divided, and the external abdominal ring arrived at; this appeared and felt so tight, that Mr. Liston introduced a curved probe-pointed bistoury under it, and divided the fibres of the external oblique tendon upwards; he then attempted to reduce the hernia, but without succeeding, owing to the farther stricture. He then opened the hernial sac, about one-third down the tumour, by pinching up a small portion with the forceps, and cutting it out with the knife held horizontally. On slitting the sac upwards, a quantity of straw-coloured serum escaped, and a portion of the omentum considerably congested appeared in the opening. Examining this, Mr. Liston found numerous strong and apparently old adhesions connecting it to the sac; dividing one or two bands, he discovered a knuckle of intestine of a dark-purplish, brown colour behind the omentum; he then passed his forefinger upwards, guided by the gut, in search of the seat of stricture; the finger was, however, almost immediately stopped by what seemed to be a membranous partition.

The operator then opened the sac again nearer the abdominal ring, and in doing so exposed more omentum and bowel, which was not, however, in the same congested state as that beneath it, though it was somewhat darker than natural. Again, the forefinger was passed into the sac, and, being directed

downwards, it was soon discovered that there existed a tight stricture in the sac itself (probably the former neck of the hernia), which divided the cavity into two portions, as if by a septum; this was divided by the curved bistoury, thus laying the two openings in the sac into one; immediately that this was done, the contents came forward, and it was at once apparent that, though there were several inches of gut outside the ring, there was only a small knuckle of it strangulated. This was marked by a deep constriction in the bowel (as also in the protruded omentum), corresponding with the stricture in the sac just divided; it was likewise clear that no further stricture remained, and, consequently, the whole of the protruded bowel and part of the omentum were returned into the cavity of the abdomen. A large portion of omentum, however, which was attached by many adhesions to the sac, was left unreduced. The patient complained of feeling rather sick and faint after the operation; pulse 98, intermittent.

12, P.M. The patient has slept since the operation, and is free from pain, except in the immediate neighbourhood of the wound; pulse 100, full and firm, but compressible; face rather flushed; mouth dry; thirsty. To have a little cool gruel.

Nov. 30, 10, A.M. Slept tolerably well; troubled with a cough, which he has had for some days; pulse 100, softer than it was last night; bowels have not yet been moved. To have a clyster, containing an ounce of castor-oil and an ounce of olive-oil to a pint of gruel.

℞ *Tincture of digitalis*, ℥ss;
Compound tincture of camphor, ℥ss;
Spirit of nitric æther, ℥iii;
Mucilage of acacia, ℥ss;
Water, ℥xvi. Two or three tablespoonfuls to be taken whenever the cough is troublesome.

10, P.M. the enema caused a moderate motion; has a little tenderness on pressure over the neighbourhood of the wound; pulse 112. To have another clyster, as before.

Dec. 1. The patient has slept comfortably; pulse 100; no pain in the abdomen; great œdema of scrotum. Repeat the enema this afternoon.

2. A slight blush of redness and glazed state of the skin just around the wound; pulse 96; the bandage and compress were removed, and the suture snipped and drawn out; there is a large quantity of lymph thrown out over the projecting pieces of omentum; œdema of scrotum somewhat diminished; warm-water dressing applied to the wound.

3. Bowels moved by the castor-oil; pulse 90; no pain; cough rather better; the lips of the wound have separated considerably, and the omentum covered with lymph projects more than it did yesterday. Water-dressing.

7. Several sloughs caused by the pressure of the pad over the situation of the internal ring are now separating from the granulations; discharge less fœtid; the patient in good health and spirits; pulse 90.

14. A healthy-looking sore is now left, which is cicatrising all round the edges under the use of zinc lotion. Full diet.

20. Lotion changed to the following, the granulations being rather prominent:—

℞ *Sulphate of copper*, gr. vj;
Armenian bole, gr. x;
Camphor mixture, ℥vj. Mix for a lotion.

Jan. 10. Discharged cured.

DUBLIN MEDICAL POLITICS.

To the Editor of THE LANCET.

SIR:—I know not whether my Lord Morpeth peruses the pages of THE LANCET; sure I am, however, that either he, or some other of her Majesty's ministers, ought to look in time after the Irish Medical Corporations, before their property is surreptitiously made away with and distributed; at least, if "the councillors of the Medical Association of Ireland" have as much influence among the rest as they exhibit in the College of Surgeons. If this precaution be not observed, I doubt if much, if any, of the "moveables" of the old corporations, shall be available to whatever new institutions are to replace them. This remark is suggested by another job, that has just been perpetrated, under the sanction of some leading "councillors." Notwithstanding a deprecatory notice that recently appeared in THE LANCET, the tyrant-school majority, led on by the councillors aforesaid, have just voted 250 guineas to the court of censors, for "their extraordinary services during the past year;" their extraordinary services being, that they passed some ten licentiates more than during the previous year. This is the first time that a mercenary reward has been attempted within the college: hitherto every office, though eagerly sought for, was merely honorary. Doubtless you will conclude from this, Sir, that the funds are in a most favourable, overflowing condition! No such thing! The college has no estates nor income, but from fees payable on the registration of pupils, upon the obtaining the licence, and upon the entrance into the membership. All return from the last source has totally ceased; for the tyrant schoolmen have determined to resist all attempts to modify the present ballot, which, contrary to charter, gives power to exclude to one-third, instead of the majority of voters; a power which they exercise, for reasons easily divined, without remorse or conscience. It requires no witch,

like James Cusack, who is always crying that the fear of college bankruptcy is before his eyes (and yet he countenances every extraordinary expenditure and extravagance), to perceive that the income of the college will soon seriously diminish, when the effects of the constantly decreasing number of persons entering the profession shall be felt; and yet such is the moment that these honest reformers have selected to act upon a novel, mercenary principle, that was never contemplated by the charter; evidencing, as many will have it, a determination to divide the spoils against the day that the reform reckoning comes.

Moreover, the delicacy of the mode in which the money was voted is in just proportion to the policy and virtue of the principle involved. Every schoolman, every councillor, was in attendance; nay, every one of the court of censors themselves had the unspeakable effrontery, the despicable indecency, to constitute the majority, by whose depravity this shameless appropriation of public money was perpetrated. The generous Maurice Collis, too, the supplemental member for the present year, lent his aid to establish this vicious precedent; a precedent that may, indeed, give him promise of a paltry prize at the close of the year, but a precedent that, duly carried out, —and there is no just ground why it should not be so carried out,—that will assuredly lead to the most fraudulent and vicious bankruptcy. But, Sir, let the names of these admirable men figure in juxta-position with this creditable transaction—Messrs. Tagert, Hutton, Palmer, Benson, Hart, Hargrave. The three last are also professors in the college school, and, along with Mr. Tagert, are coadjutors of Messrs. Jacob and Maunsell, in their disinterested efforts in council to regenerate the profession. One of the court, Mr. Adams, the late president, had the decency to absent himself.

Thus, in a few months, 250 guineas are voted, by themselves, to the court of censors, for doing nothing; 100 guineas, as another pen has informed you, to Councillor Williams, the librarian and professor of materia medica in the school,* 300 guineas are to be given to Mr. Houston, for doing in twenty years what ought to be his ordinary duty in one, viz., writing a catalogue of the museum of which he is curator. Along with these, as an eloquent correspondent in your Journal has informed the public, a mock professorship in physics has been established, with a salary of 100 guineas; and an outfit of another 100 guineas, under pretence of lecturing to registered pupils for nothing, on a subject they are not required to know, but really and confessedly for the purpose of indemnifying Dr. Apjohn, the professor of chemistry in the college, for lecturing on his proper subject to empty benches; and silently and safely introducing the principle of stipendiary professorships in general: such are the efforts these "reformers" make to keep up an unnecessary, useless, and a nuisance staff, in their mischievous school.

These jobs have been casually selected from the proceedings of the last few months: they amply illustrate and evince the profuse and lavish expenditure of public money, which the councillors and regenerators of the profession practise, when they take the private interests of themselves or their associates in view. A very striking contrast however, is presented, when any object of public utility or general welfare is brought before them: then all is caution, economy, and even penury of the strictest kind. Two instances of this nature readily suggest themselves, among others which have occurred pending the self-same period of time. Although so generous to the court of censors, to Dr. Apjohn, to Professor Williams, to Mr. Houston, "the college funds were too low, indeed, to permit the new catalogue of the library to be printed;" although to have it printed was the only object in view, in moving for a new catalogue at all; for it was objected to print the old one, till that was revised and made more perfect. Perhaps, after all, there is some wisdom in Councillor Williams withholding this catalogue from public scrutiny; Mr. Frank White's high-flown and classical puff may have been but a convenient vehicle whereon to carry the money, and Mr. Williams may be ashamed of this much-lauded Minerva offspring of his talents and perseverance.

The other instance of regard for public interests, when an outlay of public money was required, is contained in the following.

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* The meddling with the library seems not unlikely to afford the nucleus of another job. Mr. Williams's researches have led to the valuable discovery, that there exist in the library nearly 2000 duplicates. These, it is suggested by the councillors, may be disposed of, with great advantage to the institution committed to their trust, at the rate of one shilling per volume. The sapient schoolmen having come to the conclusion, that a circulating library, and a library of reference for a large body of readers, should not possess duplicates, but had better dispose of them for the above valuable consideration. It is but fair to add, that this is the reconsidered opinion of the councillors; for it was at first suggested they might be got rid of at sixpence the volume. This offers a consideration that might well be entertained by the trustees of all the great public libraries in the United Kingdom. Quere, Who is to be the fortunate purchaser of such a bargain?

It is nearly twelve months since that Sir J. M'Gregor, with the laudable desire of promoting general knowledge among medical men, especially medical officers in the army, made a proposal to the Dublin College, similar to that he had already proffered to the Royal College of Surgeons, in London, viz., "that if the college would establish two studentships in comparative anatomy, zoology, botany, mineralogy, and geology, he would undertake to place at the nomination of the college, once in three years, an assistant surgeoncy in the army, as a reward for liberal acquirements in the sciences enumerated; and that he would use his influence, without doubt of success, with the director-general in the navy for a similar premium on his part for another." It is unnecessary to say that the London College hastily and gladly seized the proffer; and have long since established these foundations at a salary of 100*l.* per annum. Not so the Dublin College, acting under the ministry of the councillors and the schoolmen, at the head of whom are Drs. Jacob, Maunsell, Williams, &c. Coldly it was received, and a dead letter it still remains in the motley, interwoven, and contradictory absurdities and jobberies of the college minutes. Although recently cushioned by Mr. James Cusack's expediency vote of doing no good, because we are supposed to be on the eve of change (the faction however are active and busy enough in mischief), the question of the studentships was not laid on the shelf, before eliciting the economical opinions and determination of these liberal and public-minded councillors and schoolmen. It was proposed to endow, with a paltry salary of 50*l.*, each of those appointments, the duties attached to which were to be sufficiently onerous; no less than two hours' daily attendance for three years in the museum, under the curator, making preparations. This proposition, however, was repeatedly negatived, under the plea of economy: "the funds of the college could not afford such extravagance!" Although in one quarter of a year we have seen it could afford 100 guineas to Mr. Williams, 200 guineas for a mock professorship to Dr. Apjohn, 300 guineas to Mr. Houston, and 250 guineas to the court of censors!!! But, then, all these were either councillors or schoolmen, under the direct and personal patronage of Drs. Jacob and Maunsell, who appropriately enough are aided and abetted in all their college reform by Jemmy Cusack, whom THE LANCET long since has celebrated, for as profound attainments in the lore of corporation jobbery as have ever fallen to the lot of one "small head to know." Truly, saith the adage, "birds of a feather flock together:" then, in truth's name, Jemmy, take to the council: boldly mount the wig and gown. Surrounded by your old associates, and engaged in your old pursuits, you need never imagine you have forsaken the College of Surgeons. And be without fear, your doings in council will not disable you one whit for your ordinary college practice.

To these recent facts, which however amply they may illustrate the virtue and wisdom of these self-elected councillors of state, in the distribution and appropriation of the public purse, I cannot forbear to add a third, not a whit less striking than its predecessors. From motives of the purest economy, the schoolmen cabinet of the college have just determined to discontinue the scientific re-unions, which have taken place for the last two years, and which have been so instrumental in the spread of a general scientific taste among the public, and the promotion of kindly feeling among the *disjuncta membra* of our absurdly-divided profession. "The funds of the college, however, were not equal to this expensive drain upon them." The apology was plausible enough, as one upon which to smuggle a motion, without notice, through a thin college; but some there be, who suspect that more profound reasons of state policy are at the bottom of it. The cabinet of councillors and schoolmen did not shine before his excellency and the public: monopoly here was out of the question; and a laudably liberal spirit was growing rapidly up, which insisted that every one, even the youngest licentiate, had a right to present himself here before the public, if he had anything worthy to communicate. This was a severe shock to a set of men who had well nigh exhausted their little stores of curiosities; and, in their efforts, too, had cut but a poor figure; nay, more, had been eclipsed on their own stage, in the enactments of characters which it were well the gentle public should imagine peculiar to themselves. Far be it for an humble scribe like me to presume to fathom the depth of a Jacob's sagacity; but, certainly, that the college funds should be so expansible for one set of objects and so unyielding for another set of objects, is somewhat remarkable.

PUBLICOLA.

HOW THESE THINGS ARE MANAGED IN DUBLIN.

To the Editor of THE LANCET.

SIR:—I have always been averse to appear in print, being convinced that it is a much more politic and wise plan to pursue my course, without regard to anything, save the attaining of the object which I have in view, viz., the good of the institution with which I am connected. I have, however, lately seen my name associated, in your Journal, with certain proceedings in our College of Surgeons; and although the allu-

sions therein contained may not have been intended for myself, I feel anxious to prevent any misconstruction of the motives which always have regulated, and always shall regulate, my conduct in that body. I hold that the college is only the *aggregate* of its members; therefore, that the interests of the *members* are, and must be, the interest of the college; and that whatever is opposed to the interests of the *members*, cannot be for the good of the college: consequently, that the interest of the former ought to be upheld "per fas et nefas." I hold it idle to object to this doctrine, that the interests of one section of the members may be at variance with those of another: each man must stand by his party, be it right or be it wrong, and maintain it to lie in the college, else no party can hold together for a moment, nor any man expect others to protect and serve *his* interests, if he will not do the same by *them*. Equally futile is it to say, that a section of the members, or even the whole of them, do not represent the college, since they bear but an insignificant proportion—not more than 1-7 or 1-8—to the licentiates; because though the latter are recognised by the charter, yet they are not of the community, and therefore are not to be considered. It matters little why they are not of the community—they are *not;* and that is enough. It matters not if they are excluded by a corrupt and tyrannical by-law, inconsistent with the spirit of the charter, persisted in notwithstanding repeated remonstrances against it, and upheld by the grossest tergiversation and chicanery. All this matters not. While the by-law is preserved, the licentiates are kept out *legally*; and while those who exclude them take care to keep themselves safe from the reach of the law of the realm, they need not fear; but pursue steadily that wise principle, that duty "for myself first; for my party next; for the rest, who cares?" And I do assure you, Sir, that this maxim is well understood amongst us; aye! and—were I not afraid of Messrs. Collis and Benson, I would say—"Fore the gods! bravely acted on too;" in a manner to delight you, could you but witness it. We never, for instance, hesitate to do things, to serve the purpose of the moment, which might, perhaps, be said to be contradictory, inconsistent, or disreputable; but which we hold the great objects we have in view to justify fully. So we oppose to-day the very proposition which we advocated, or even made, ourselves yesterday—we resist on one day, for the very same reasons upon which we supported on another: nay, we do not fear to exult in, to boast of our inconsistency, and to make a present of it to our adversaries—we are never at a loss for a crafty story with which to entrap the attention, or to alarm the apprehensions and rouse the prejudices of the senseless creatures whose noses we command with bonds as persuasive, as ever guided the shambling gambols of the stupid bear; albeit the brute seems less insensible to his degradation. What matter if it prove to *be* a *story?* it is believed for the nonce; they have neither the sense to detect nor the spirit to resent it; and deceived to-day, they are deceived again to-morrow. How else are they to be managed? We are always ready, too, with a precedent for every scheme we wish to accomplish. We have been, you must know, some of us, upon the CONTINENT OF EUROPE; and as this is an unknown region to nine-tenths of our party, we silence all opposition upon a pinch by the simple assertion, "it is so in Germany." Beyond this there is no appeal; we are safe from detection, and no one ventures to question our veracity.

Such is the policy which has guided me in the small part which I have taken in the affairs of our college; a policy in the wisdom of which I am sure you will concur, and by publishing which you will do a great service to our body.

I intended to illustrate the working of this admirable system in maintaining the interest of the college, but my space will not allow it; and I must postpone my purpose to another opportunity. I remain, with great respect, your obedient servant,

JANUS KUSACK.

Dublin, Jan. 15, 1841.

MEDICAL REFORM.

To the Editor of THE LANCET.

SIR:—A few months ago, when Mr. Warburton's long-expected Bill was laid before the public, I took the liberty of suggesting, through the medium of your columns, that it would be well for the profession to suspend their opinions on it until the one promised by Mr. Hawes and the one expected from yourself had made their appearance. Mr. Hawes' Bill has been before the public for some time, and yours is expected daily; and now is the time for them to make up their minds as to what is good or bad in the whole three, and to state it. In the mean time, I wish to call the attention of the medical public to a point of paramount importance, which I am afraid may be overlooked, or at this time seem to be unnecessary; I mean the necessity of petitioning *both* Houses of Parliament in the same way and in the same words as last year. Persons who petitioned last year are not to suppose that they have done enough, but ought to petition, year after year, until their object is attained. Let, then, every medical man, who feels any interest in the cause, get up a petition (drawn out as was done last year on foolscap paper), and send it to Parliament, no matter whether there be one name or one hundred at-

ached to it, every petition *counts as one.* Let county electors send their petitions by post to the county members for presentation; and let city and borough voters send theirs through their respective representatives, accompanied by letters, requesting their earnest attention to the subject when it comes before Parliament. Gentlemen in the country, who are personally acquainted with members of Parliament and noble lords, ought also to write to them with the same view; by doing so, the attention of those who have to legislate on the subject would be as much directed to it as that of the members of the medical profession are at present.

I am still in hopes that, through the instrumentality of the delegates about to meet in London, the trifling differences between you, Mr. Warburton, and Mr. Hawes, will be made up; and that these gentlemen, who have the confidence of all true reformers, who sit almost side by side when in the House of Commons, and almost invariably vote together when there, will not play into the hands of our opponents by opposing each other. I would also, with all due deference, beg to remind the public that Joseph Hume is still alive, and a member of the House of Commons; and although he has not brought in a Bill on the subject, he, as a medical man, understands it well, and will, perhaps, in the end, be of great assistance in procuring "a bill of rights" for the medical profession.

Let, then, our present object be,—petitions! petitions!! petitions!!! I am, Sir, your obedient servant,

WM. SIMPSON.

110, Guildford-street, Jan. 21, 1841.

THE LANCET.

London, Saturday, February 6, 1841.

A CORRESPONDENT informs us, in a jocular note, that "a contemporary," which is pleased to call THE LANCET a "rival," avows its conviction that the affairs of the medical profession will no longer be treated with neglect, adding, that "this change has come, "not from the increased urgency of the case, "nor from any new light cast upon the difficulties of the question, either by this "Journal or its rival, but, strange condition "of society! because a popular and influential periodical, devoted to general literature and politics, *has admitted the subject into its pages.*" Medical reform would be at a low ebb, indeed, if its existence and success depended upon such an inconsiderable incident. We do not wish in any way to depreciate the degree of influence or talent with which the periodical referred to is conducted; but the selection of such a topic for review can only be considered a proof of the Editor's tact and discernment, for medical reform must be infinitely more advantageous to the "Quarterly" than the "Review" can be to medical reform. We must look much deeper for the springs of its power and progress. With less modesty and more truth the reviewer may confess, with PAUL LOUIS, "I am the fly on the coach, which, without "my buzzing, would still travel onwards. It "goes on, my dear friends, and will not "cease. At this hour, running on the level "plain, *nothing* arrests its course!"

We gave the reviewer credit for some acuteness, and glimpses of enlightenment. He admitted the absurdity of the certificate system, of the complicated curricula, and of the actual examinations. He did not deny the fact, that the interests of the present corporations are opposed to the interests of the public. He did not pretend that the interests of the members were consulted by the self-elected councils. But if the reader ask himself, at the end of the article, what the writer has said, or proposed, and what is really, according to his view, the conclusion of the whole matter, the answer will be marvellously difficult and unsatisfactory. Reform shrinks in the mind of the writer into a narrow compass; it becomes a very petty affair; everything is frittered into details. It falls into dust from his hands, and is unquickened by a single great principle. Grant that all the reviewer's suggestions were carried into effect, and who in the world would be the better for that? Would the student, the practitioner, or the public?

Thousands of medical practitioners have petitioned Parliament; the medical profession is dissatisfied and disorganised; asso-

ciations have sprung up in every part of the kingdom; their grievances are oppressive, and palpable; they are deprived of their rights as members of chartered corporations; they have neither privileges nor protection. The councils of their colleges treat them with a derision which has been imitated in the unions by the Poor-law Commissioners; their services have been decried by hired authorities; their offices have been dishonoured; they have been threatened with degrading competition, and driven by the "tender system" into disgraceful undertakings. The Poor-law Commissioners ride rough shod over them. The control of vaccination, and of every measure connected with the public health, has been taken from them. The poor are the victims of quackery, ignorance, and delinquent adventurers, and often, as Mr. Toogood has shown, perish for want of medical aid; while the aged, the sick, and the helpless, are collected in crowded workhouses, and fed upon wretched gruels, until epidemics are generated, which decimate the districts in which they are placed.

Nothing, we apprehend, can remedy these evils but just measures of reform. Abuses and monopolies must be abolished. The members of the medical corporations must be put in possession of their rights. They must have a voice in the management of their own affairs. They must be united. Industry and talent must be rewarded. Means must be devised for promoting medical science. The poor must not be abandoned in sickness; they must not be heartlessly sold to the lowest bidder; *they must be attended by the same class of educated men as attend their wealthy neighbours;* and the health of the millions of the labouring people must be watched over with as much solicitude and skill, as are bestowed upon the few thousands of the aristocracy. At these beneficent ends all the efforts of reformers aim. At less than this we must not aim.

Great objects of this character should awaken the ambition and win the support of our great men—if we have any, in the medical profession. We could name those who have gained wealth, rank, literary and scientific honours; but here is an opportunity for doing something better and nobler,—for making sacrifices in a good cause, and for gaining the esteem and admiration of their brethren. The occasion is great; can they rise to the level of its greatness? Many munificent acts have been performed by members of the medical profession. There were Caius, Harvey, Radcliffe, Mead, and others, who devoted large sums to science. Dupuytren, although he had some tricks of meanness, when the fortunes of Charles X. were overthrown, and the ancient house, to which he had devoted himself, had fallen—offered to place half his immense fortune at the disposal of the royal exiles. Here was certainly an element of greatness, of lofty generosity. If the French surgeon's mind could be little upon little occasions, it could also be great upon great occasions. Carmichael has recently given *five hundred pounds* to "the cause of medical reform;" he is living and amongst us, so we refrain from speaking of the act as it was designed. But taken in an extended sense, and in its bearings upon the happiness of mankind, the cause of medical reform is the worthiest that can be contemplated. What, then, we ask, are the men at the head of the medical profession prepared to do? Have we no surgeons who, in this cause, can equal the generosity of Dupuytren in a worse cause? What will Sir Astley Cooper do? What will Sir Benjamin Brodie do? What will other English surgeons and physicians whom we could name do? We do not ask them, as Englishmen, to dedicate a fortune to a great object. We do not ask them for even a single pound. But we do hope that they will not much longer stand coldly aloof, shabbily pocketing a few hundreds a-year from the commencing capital of poor students and practitioners, but that when they do speak, or write on the subject, it will be in a spirit of conciliation, justice, and generosity. Let us see that they have not attained the station

which they occupy in a liberal profession, without one element of liberality. Can they not meet reformers half way, and exchange usurped power for the spontaneous homage and confidence of the medical practitioners of the kingdom?

We are utterly unable to understand—if Sir BENJAMIN BRODIE be the reviewer—how, in denying them the right of electing their own councils, he could express so little regard for the opinion, and so little trust in the judgment, of the great body of medical practitioners. For to what circumstance is Sir BENJAMIN BRODIE indebted for his present position? To his high connections? Other surgeons less successful have had equal interest. To accident? Not entirely. To his talents, application, character, and scientific labours? If this be the reply, we admit its justice; but by whom have his talents, character, attainments, and scientific labours been appreciated and rewarded? Why, by the very men on whom we are told he now turns round, denying their capacity to govern themselves. He, and his friends who stand with him, should be the last in the world to deny the soundness of public opinion, and the sagacity of their contemporaries.

It is with some gratification that we open a pamphlet on *Medical Reform, by Dr. Kidd, Regius Professor of Medicine in the University of Oxford.* Dr. KIDD has set those holding influential offices in the present institutions an excellent example. He is a partisan of his own university, but he rises above petty interests, and perceives that the lasting prosperity of Oxford is indissolubly connected with the public good, and with the equitable organisation of the profession. Dr. KIDD has not entered deeply into the question of medical reform, and has not displayed much legislative genius in his treatment of the subject, or the suggestions which he offers. But he has avoided trifling details; and goes in his short tract at once to the root of the matter; so that by the abnegation of all selfishness, and the great simplicity, clearness, and purity of his designs, he approaches that standard of moral, if not intellectual, greatness which, we have said, the time requires.

Dr. KIDD is a fellow of the College of Physicians, and the Oxford Regius Professor, yet he writes thus of the distinctions in the College of Physicians:—

"*The reason for having made this distinction of fellows and licentiates is not apparent; nor is it apparent why, in the progress of time, the distinction became so limited, as that none but doctors in medicine of Cambridge and Oxford were admissible as fellows of the college.* Of the intention of such a preference there is no indication in the original statute of foundation, or in the subsequent confirmations of that statute; by which, in order to be qualified for a fellowship, it was simply requisite that the applicant should be of good morals, and a doctor in medicine of any university, English or foreign: and among the fellows in the earlier years of the college many were not merely graduates of foreign universities, but were, both by birth and extraction, themselves foreigners, as has been stated to have been the case with reference to many of the physicians of London antecedently to the foundation of the college."

It is desirable, he contends, that the inequality of the standard of qualification should be removed; and "this change would "require the establishment of one national "board of examination, *which should alone* "*have the power of granting licence to prac-*"*tice.*"

"With respect to the future condition of existing institutions, there appears nothing in the least derogatory to their dignity; nor, which is of much more consequence, to their professional utility and efficiency, in considering them henceforth as independent scientific societies; which, retaining all their present members and internal laws, might henceforward admit new members by the same mode as new members are customarily admitted to the Royal, Linnean, and other scientific societies. Each of the existing institutions might still have its own library and museum, and its own lectures; each might have its own meetings, and publish its own transactions; *and all, vying with each other in the spirit of a liberal emulation, might continue to benefit both individuals and the public, quite as effectually as under the present system.*"

He disposes, very quietly, of a fallacy in the "Quarterly Review:"—

"To the demand that of every candidate for a medical licence, such an examination

should be required as might show a due qualification to practise either as a 'physician,' or a 'surgeon,' or as a 'general practitioner,' there does not seem any reasonable objection; nay, it is quite expedient that every candidate for a medical licence should be so qualified. For, although it is true, as is observed in a very judicious and candid article on Medical Reform in the 'Quarterly Review' of December, 1840, that very few physicians practise surgery in this country; yet, as might have been justly added, had it occurred to the writer of that article, it is also true that every physician ought to be acquainted with the principles of surgical practice. And it is equally true, as indeed is implied in the same article, that, even in London, all surgeons must necessarily act as physicians in very many of the cases of their specific practice; while, out of London, except in the very largest provincial towns, no surgeon could gain a competence were he to confine himself to a practice purely surgical. Hence, therefore, it follows that every candidate should be qualified for all the three branches of medical practice, since this being granted in the case of the 'physician' and 'surgeon,' it must necessarily be granted in the case of the 'general practitioner,' inasmuch as he combines in his own practice the practice of the other two."

With respect to medical titles, Professor KIDD has the following observation:—

"I know not whether I am correct in supposing that there are some among the advocates of medical reform who are desirous of making the proposed national board the source not only of medical licences, but of medical titles also; nor do I know how such a regulation would be regarded by the members of the profession at large. The obvious objection to the measure is its apparent inutility: for, provided the board can give a licence to practise in any and in all the three branches, into which the profession is actually and always must be divided, it would appear that the essential point is gained, as far as individuals are concerned; and, on the other hand, no corporate bodies or universities need be jealous that the power of granting titles or degrees should be extended to one additional source of such titles, further than from the motive of *a consequent diminution of their pecuniary revenues—a motive which, at the present day, can hardly be supposed to influence the members of a liberal institution in their collective capacity.*"

We conclude our extracts with the following calm and healing words, which could not fall with more grace or efficacy than from the lips of the venerable Professor of an English university:—

"In the mean time, I would respectfully solicit all those whose interests are directly implicated in the proposed measure, to exercise that mutual good-will and forbearance which ought to mark the proceedings of the members of a liberal profession; in order that, on the one hand, may be manifested the single desire of a salutary reform; and, on the other, a similar desire to acquiesce in such changes as not only the general interests of the profession, but of the public also, may require.

"It is equally noble in communities, in individuals, to acknowledge and amend an error, as it is ignoble to persist in it: and it must be admitted by every unprejudiced inquirer that, had all the existing institutions of the medical profession always adhered to the spirit of their original foundations, many of the present evils would have been prevented."

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, January 26, 1841.

Sir B. C. BRODIE, President.

Observations on Vaccination and Small-pox, more especially with reference to the theory of Vaccine influence, and the relation subsisting between the Cicatrix and the Character of the Consecutive Variola. By GEORGE GREGORY, M.D., Physician to the Small-pox Hospital.

THE observations of the author, in the present paper, are intended to point out, first, the alarming increase of small-pox in the metropolis, as shown by the books of the Small-pox Hospital; and, secondly, the insufficiency of the appearance of the cicatrix of the former vaccination, as a test of the degree of protection afforded by the process.

Upon the first point, he adduces the fact that the admissions in the first three quarters of 1840, only amounted to 142, being at the rate of 16 per mensem; while in the 25 days immediately preceding the reading of the paper, they amounted to 93, being at the rate of nearly four per diem—a greater number than was ever admitted in one month since the establishment of the hospital, in 1746. Of 316 cases, admitted in 1840, 194 had not been vaccinated, of whom 87 died, or 45 per cent.! 120 had been vaccinated, of whom only eight died, being at the rate of 7 per cent.; the remaining two had the small-pox previously. Of the 316 patients, 47 were under 5 years of age, of whom 28 died; 45, between 5 and 15, of whom 9 died; 224 were adults, of whom 58 died. The total mortality was 95, or 30 per cent. on the gross admissions.

With reference to the second point, the author entered at some length into an explanation of the causes by which the many

observed varieties in the appearance of the cicatrix may be explained, and presented the society with two series of well-marked cases; in the first of which, severe small-pox occurred in cases presenting perfectly normal cicatrices; whilst, in the second, the opposite anomaly presented itself: the lightest and truly varicelloid eruptions co-existing with small and very imperfect cicatrices.

In the conclusion of his paper, the author expresses a doubt of the conclusion, seemingly derived from the late experiments of Mr. Ceeley, of Aylesbury, of the identity of the vaccine and variolous poisons.

Dr. Webster thought that the conclusion come to by the author, in the first paragraph of his valuable paper, respecting the unusual prevalence and mortality of small-pox, at the present moment, in the metropolis, was somewhat erroneous. And, as every observation from Dr. Gregory, on a disease with which he was so familiar and experienced, carried great weight with it, especially when considerable alarm existed in the public mind on the subject, Dr. W. begged to offer a few remarks, in opposition to the deductions the author had drawn from recent occurrences at the Small-pox Hospital. For, although a greater number of patients had been admitted, and more deaths had taken place at that institution, during last year, than at any similar previous period since its foundation, the result has been quite otherwise in the metropolis generally. And, in support of this opinion, Dr. W. appealed with the utmost confidence to the Registrar-General's Report; a document most useful to the medical profession, and highly creditable to the Government. In these tables, 3817 fatal cases of small-pox, or 73¼ weekly, were recorded to have taken place, during 1838, in London, whilst in 1840 only 1233 deaths occurred; being scarcely one-third of the former number. Such an incontrovertible fact, notwithstanding the admissions and deaths at the Small-pox Hospital, must show that the fears now existing were groundless. Statistical conclusions, when drawn from a limited number of facts, were often very fallacious; but if obtained from the occurrences in a population of upwards of a million and a half, like that of the metropolis, they were then of great value, and most correct: hence the opinions expressed by the author must be taken in a limited sense, and by no means as proving the general prevalence of small-pox. It was much to be regretted that this disease has so frequently prevailed after vaccination, as stated by the author; but, Dr. W. trusted, that in many of those cases the patients had been imperfectly vaccinated; and he hoped the fact of so many persons affected by the secondary small-pox, would stimulate those most interested to extend genuine vaccination more and more, since it was the surest preventive we yet possessed against the ravages of this most disgusting and fatal disease.

Dr. Gregory, in answer to the observations of Dr. Webster, might remark, that the present epidemic was now only in its commencement. This epidemic, like that of 1838, began in the autumn; and, as it had been proved that epidemic diseases generally required six months to fully develop themselves, and six months more to recede, he calculated that the present one would reach its greatest height in May or June next. This epidemic had commenced in October, 1840, since which period the admissions into the Small-pox Hospital had been gradually and steadily increasing in number. The epidemic of 1838 commenced in October, 1837, and did not reach its crisis until the following May; hence it would be seen that Dr. Webster's calculations were altogether fallacious, as they had extended to the whole of the years 1838 and 1840; whereas, to be correct, they should have been limited to the months in which the disease had been epidemic. Regarding the other statement of Dr. Webster, on the possibility of statistics drawn from the Small-pox Hospital, being erroneous, when taken in reference to the disease in general, he might merely remark, that in both the old and new Bills of Mortality, the deaths from small-pox bore a remarkable correspondence in number with those occurring in the institution in question. He (Dr. G.) had not as yet made any accurate calculation of the comparative numbers affected by this epidemic and that of 1838; but he thought, from general recollection, that the latter was more severe than the former.

Dr. Webster, in addition to the remarks made by Dr. Gregory on the epidemic small-pox of 1838, would say, that the disease was most prevalent in the months of April, May, and June of that year, when the average weekly deaths were about 88, or 1141 in the quarter; whereas, during the same months of 1840, the average deaths were only 13¾ per week, or 174 in the quarter. This contrast was, indeed, truly remarkable. Besides, although Dr. G. reported the admissions and deaths, at the Small-pox Hospital, to have been very great during last December, and up to the present date, nevertheless, it appeared by the registrar-general's tables, that the epidemic was becoming less prevalent. In the month of December last, the disease was certainly more fatal than during any other month of the year; but it was only in the last week that the average number of 1838 was actually exceeded, when 102 deaths are reported. However, it ought to be remembered, when the accounts for the year were about being closed, that perhaps some deaths were included in this fifty-second report, which ought to have been entered in previous returns; and such a supposition appeared the

more likely, since the deaths from all causes were so high as 1377, instead of approximating to the average number of previous years, or 1013. Again, in the reports of the 9th and 16th of January of the present year, the deaths from small-pox were respectively 86 and 55; thus proving most conclusively that the epidemic was rapidly diminishing, notwithstanding its great prevalence at the Small-pox Hospital, which Dr. Webster believed was greatly owing to the excellent accommodation afforded to the patients; besides the well-known zeal and experience of the physician, Dr. G., under whose charge they were placed, it was, therefore, not surprising, if so many cases were sent to that institution from all quarters. Before sitting down, Dr. W. would ask Dr. Gregory, if he still entertained the same confidence in the protective influence of cow-pox as he had expressed on a former occasion in that society; because it was of importance to hear from so competent an authority, whether the fears entertained on this point by some of the profession were well-founded or erroneous. He would also like to ascertain what was the rate of mortality in those affected by small-pox after vaccination.

The PRESIDENT remarked, that he thought Dr. Gregory's paper, stating, as it did so explicitly the comparative mortality in the vaccinated, as compared with the unprotected, had satisfactorily answered both these questions.

Mr. ARNOTT requested information as to which was the most proper period to perform vaccination for its full preservative powers to be obtained. A case was related in the paper of a child, two years and a half old, suffering from confluent small-pox, who had been vaccinated at two months old; and he himself had seen one case of consecutive variola in a child, under seven years of age, who had been vaccinated at the second month.

Dr. GREGORY replied, that it appeared to him that the question of the most proper age for vaccination might be drawn into a very small compass. Provided the disease were taken properly,—that there was a good vesicle and areola, with a due degree of constitutional effect,—it mattered not whether vaccination were performed at the second, third, or fourth month, or the second, third, or fourth year. The true question for consideration was, at what period of infantile life vaccination could be performed, so as most certainly to ensure success, and to avoid inconvenience to the parties. This question had recently been forced upon public notice from the interesting circumstance of the Princess Royal being born during an epidemic prevalence of small-pox. In answer to this question it might be stated, that in the first week or ten days after birth, before the infant had attained any degree of plumpness, it was very difficult to vaccinate; not from any want of susceptibility in the patient, but from the difficulty of inserting the lymph properly. This difficulty was more or less present until about the fourth month, and therefore this was the period usually chosen; for not only was the arm then generally plump, but there were also then no contending influences, such as teething, present in the constitution.

Mr. CEELEY agreed, in the main, with Dr. Gregory; but he thought that the difficulty in vaccinating very young children was mainly dependent upon the mode in which the operation was performed. He believed that an infant of two or three days old might be effectually vaccinated, if the lymph were inserted by merely scratching the skin on its surface: puncturing in these cases would not succeed.

Dr. GREGORY remarked, in answer to a question, that there was extreme difficulty in determining at what age patients were vaccinated, who, having afterwards contracted small-pox, were admitted into the hospital. They generally stated that they were vaccinated in early life; but whether at the second, sixth, or twelfth month, they could not tell. Even parents could give no precise information on this point. Thus, in a family of ten children, all of whom had been vaccinated, and one of whom had since contracted small-pox, and died, the only information he could obtain in reference to the operation was, that it was duly performed, in all the cases, by a surgeon at Aylesbury, and that one pound one was paid for each child, "not eighteenpence, Mr. President," said Dr. Gregory, "but one pound one."—(*Hear, hear, and laughter.*) There was another point, however, upon which he would venture to offer more definite information. He had observed a number of cases of small-pox after vaccination when the process had been gone through at the seventh, eighth, and tenth year, and even at a later period. It appeared to him, that of those who were vaccinated at the adult age, more took the disease than where the vaccination had been performed in early life. Hence he considered the latter period more favourable than the former for the operation; and he explained this by supposing, that in adult life there existed a greater mass of fluids to be properly impregnated than in the infant state. He would wish to ask a question of the society, and this had reference to the new matter,—the variolo-vaccine, as it had been termed, and which had been extensively employed in practice since 1839,—Had the members of the society had any experience of this new material? and if so, had they observed any difference between it and the old vaccine matter? and also, whether they thought it was likely to be more effective in its results than that which had been in use for

the last forty years? He himself had recently paid much attention to this subject; and he had observed so marked a difference between the two kinds of matter, that he thought they possessed features which rendered each at once distinguishable. There was a difference in the areola, in the appearance of the vesicle, and in the reparative process. Thus the areola of the variolo-vaccine was of a purple hue; in the centre of the vesicle was a minute green point, described by Mr. Ceeley as the "emerald resting on the pearl;" whereas, in the old vaccine vesicle, Dr. Jenner had described the appearance to be that of the "pearl resting on the rose." The variolo-vaccine was liable to be followed frequently by sharp and deep inflammation of the cellular membrane, and the reparative process was attended by much constitutional disturbance.

Mr. CEELEY believed that there was no specific difference between the two kinds of lymph, although there might be a little variety in the effects of the variolo vaccine consequent upon the structure into which it was inserted, and the temperament of the individual operated upon. It was curious to observe the various accounts he had received from practitioners of the effects of this lymph. Some said that its effects were milder than were those of the old vaccine matter; others described it as precisely the same, and some remarked that it was more active. These differences in the effects, he believed, were mere varieties, and did not depend upon any specific difference in the matter, but on the circumstances he had already mentioned—the state of the skin, the subject acted upon, and the time of year in which, and of the tissue into which it was inserted. There might be some difference in its activity, in consequence of its being a new lymph. The popular opinion in Aylesbury was, that the new lymph was followed by more secondary inflammation, and more constitutional irritation than was the old; but this peculiarity did not obtain in regard to its primary effects.

The subject of re-vaccination being mentioned, Dr. GREGORY remarked, that he had not been able to obtain much information, except that it was becoming more prevalent among the lower order than it used to be. In the case alluded to, of a family of ten children, one of whom had died of small-pox after vaccination, eight of the other children had been re-vaccinated under his own eye. In one-half of these the disease was attended by perfect vesicles and areolæ; in others, these were mere irritable papulæ; and yet all the children presented perfect cicatrices. This difference in the effects did not appear to be at all traceable to age; some of those in whom the disease took well were old, some were young. He thought we were yet in much want of information to explain some of the phenomena connected with variola. He should, however, recommend re-vaccination in all cases, to give the patient a better chance against the infection of small-pox. With regard to the remarks of Mr. Ceeley, respecting the different accounts he had received of the effects of the variolo-vaccine, he (Dr. G.) might merely observe, that these differences did not obtain when the old matter was employed. He knew by experience what he had to expect from the old matter, and calculated accordingly. Not so, however, with the new, for he found that this would produce a mild vesicle on Thursday, the 1st; a very severe one on Thursday, the 8th, and from this a mild one might subsequently be re-produced. It appeared to him, in this particular, to bear a close resemblance to variola; for a mild varioloid disease sometimes produced a confluent form of the complaint in another person, and *vice versâ*; the confluent sometimes generated the mildest varioloid.

On Gouty Concretions, with a New Method of Treatment. By ALEXANDER URE, Esq.

THE author's intention, in the few remarks contained in this paper, is to introduce to the profession a remedy, which he believes to be likely to prevent the formation of tophous concretions in gouty subjects. The remedy is benzoic acid, administered in doses of a scruple, an hour after a meal. "In the course of a couple of hours (as the author has found by frequent experiments, made upon himself and others), the urine voided, amounting to five or six ounces, will be found, on adding a small quantity of muriatic acid, to yield a copious precipitate of beautiful rose-pink acicular crystals, which weigh, after being allowed to settle for a day, about fifteen grains." The body thus produced by the agency of vital chemistry is hippuric acid, and is found to have taken the place of uric acid in the urine, none of the latter being discoverable.

By thus substituting hippurate of soda, a salt of easy solubility, for the very sparingly soluble urate of that alkali, the author conceives that the formation of the tophous concretions may be altogether prevented.

Mr. URE stated, in answer to questions, that he had employed the plan recommended in his paper in two or three cases with decided success. He had not found the dose, twenty grains, to be at all too large, and had frequently taken it himself without any unpleasant effects.

Mr. COULSON thought the quantity of benzoic acid, mentioned by Mr. Ure, too large a dose to exhibit, or, at least, to commence with; he was occasionally in the habit of giving this medicine in purulent secretion from the kidney, for which affection it was a valuable remedy, but he never

began with a larger dose than three or four grains.

Dr. KINGSTON remarked, that the class of remedies to which that recommended by Dr. Ure belonged was one of much importance. Gouty persons were liable to concretions, not only in the joints and bursæ, but also in internal organs; the obstruction of which, if not more inconvenient, was far more prejudicial to life; as, for instance, the aorta and valves of the heart. Independently, also, of gout, there was a calcareous diathesis, under the influence of which he had often known a great number of organs at once occupied by concretions, extensively encroaching on their structure. If concretions of the joints and bursæ could be removed by one chemical remedy, we might hope to find some other of this class capable of removing the internal calculi.

WESTMINSTER MEDICAL SOCIETY.

Saturday, January 30, 1841.

Mr. STREETER, President.

Mr. DUNN related a case of

OVARIAN DROPSY WITH TUBEROUS SCIRRHOUS TUMOUR.

The subject of this case was a lady in tolerable general health, aged 65, a widow, but had had no children. She came under the care of Mr. Dunn in August last for bronchitis, which, under the usual treatment, was speedily subdued, and she regained her usual health. Dr. Blundell, who had seen her twelve months previously, was also in attendance in consequence of a tumour of the abdomen, which he had pronounced to be ovarian dropsy of the left side, and which had now much increased in size. She continued in tolerable health until Christmas, when she dined out and ate heartily. A few days afterwards, Mr. Dunn was suddenly called to her in consequence of an attack of vomiting; she had not been well for two or three days previously, having had nausea and general uneasiness in the stomach and bowels. He found her in a state of great prostration, with a weak, feeble, and quick pulse; she did not complain of pain, but felt weak and faint, and sore from the effects of the vomiting. She rallied a little a day or two before she died, but sunk about fourteen days from the first attack. On opening the abdomen, a large solid tumour, about the size of an eighth or ninth months' child, and weighing eight or ten pounds, presented itself; it was of an irregular shape, and appeared to consist of three or four tumours united at the central point; it inclined to the left side of the abdomen, and extended from the left ovary to the scrobiculus cordis. An ovarian cyst, from which about four gallons of fluid had been drawn off, was situated in front of the tumour, and upon the outer surface of this cyst, the large irregular scirrhous mass seemed to be developed; during life, it could be felt through the parietes of the abdomen. The fluid drawn from the ovarian cyst was at first thin and limpid, but became, towards the close, thick and viscid. On passing the hand around the internal surface of the cyst, it felt soft and smooth, but here and there a tubercular enlargement, about the size of a walnut, could be distinguished. The tumour was connected by old adhesions with all the surrounding parts; these adhesions having been carefully broken through, the tumour was easily traced down to the left ovary, from which it arose by a sort of cervix; the right ovary was not enlarged, but was in an unhealthy and somewhat scirrhous state. On making an incision through the tumour, many distinct cysts were divided, containing a thick gelatinous fluid, very similar to calf's-foot jelly, and which required to be squeezed out with the fingers. Between these cysts, the structure was hard and cellular; in fact, the tumour seemed composed of these cysts; the contents of which differed only in the degree of their viscidity, the entire being very much of a tubercular character. The mesenteric glands were in a state of strumous enlargement, and upon the peritoneal coat of the small intestines, at a few inches apart, were found tubercles differing in size from that of a pea to that of a hazelnut. There was little doubt but that the patient perished from gastro-enteritis; the presence of which was diagnosticated during life. There was little pain, however, on pressure, and this was deep seated; the presence of the tumour also threw an obscurity over the symptoms. The act of vomiting, however, was very painful and distressing.

A desultory discussion followed the narration of this case, having reference chiefly to the value of pain as a diagnostic mark of the presence of inflammation. We can select nothing from the discussion, however, to place upon record.

MEDICAL SOCIETY OF LONDON.

Monday, February 1, 1841.

Dr. CLUTTERBUCK, President.

SMALL-POX.—EFFICIENCY OF VACCINATION.—MISERABLE FAILURE OF THE VACCINATION EXTENSION ACT.

A MEMBER brought before the notice of the society, the valuable result arrived at by Dr. Gregory, in reference to small-pox and vaccination, which he brought before the last meeting of the Medico-Chirurgical Society, and a report of which will be found in the present number of THE LANCET.

Mr. DENDY had found the character of the cicatrix, from the previous vaccination, af-

forded no evidence of the amount of protection, and, in consequence, that would not determine the character of the consecutive variola. With respect to the old vaccine matter and the variolo-vaccine, some of which he had procured early from Mr. Estlin, he had found the latter so little to be depended upon, that he had given up its use entirely. He believed the reason why vaccination was more likely to be effective in early life, than at the adult period, did not depend upon the cause specified by Gregory; namely, that, at the latter period, there was a larger mass of fluids to impregnate; but rather upon the fact, that the child's constitution was purer, and the vaccine process was less likely to be interfered with by contending influences in the system. He should recommend the performance of re-vaccination every six or seven years.

With respect to the preventive power of vaccination, Mr. Dendy alluded to three cases, which had come under his notice, of secondary small-pox occurring in children who were deeply pitted by the first attack of the disease; while other children in the same families, who had been protected by vaccination, merely suffered from a varicelloid eruption, which was followed by no secondary fever. Mr. Dendy adverted to the present prevailing epidemic, which was of a most formidable character. The Bill placed under the control of the poor-law commissioners had been productive of the very greatest injury to vaccination; by dividing the interests of medical men on the subject, and by swamping the exertions which had been previously made, not for gain only, but for forwarding gratuitous vaccination. As a specimen of the way in which the new Act progressed, he stated that he had lately met a friend who had been imprudent enough to accept an appointment as parochial vaccinator, at eighteenpence a-head. He had been appointed ten weeks. Two persons had applied to have their children vaccinated; one of these he vaccinated three times, the other twice; he recorded one of them only: thus operating five times for one shilling and sixpence! If a change were not made, the mischief that would be done to vaccination would be incalculable. He might remark, also, on the extreme folly of the Bill, by putting aside the vaccinators already established, and by applying to whom at any of the institutions, a person might be vaccinated without the trouble of procuring an order. It was deeply to be regretted that Mr. Wakley's Bill did not pass the Legislature.

Dr. T. Thomson thought the vesicle produced by the variolo-vaccine was so frequently exactly similar to the one produced by the old matter, that we might depend upon it as as good and efficient a preventative for small-pox as the latter. It might, perhaps, be a little more active, in consequence of having been so recently obtained from the cow. With regard to the proper time for performing vaccination, he believed that in Paris, at the Foundling Hospital, all the children were vaccinated within the month, and the operation was generally successful. With respect to the susceptibility to the influence of secondary vaccination, he inquired if this might not depend a great deal upon changes which had been produced in the system by severe disease, particularly by fever? He had found that persons who had not been subjected to the annoyance of insect bites previously to the occurrence of a fever, had been so subjected afterwards. Dr. Jenner had considered that the efficacy of the vaccine lymph was somewhat modified by being within the atmosphere of the Small-pox Hospital, and that it was not so protective in that locality as in other places.

Mr. Linnecar considered that sufficient time had not yet elapsed, since the introduction of the new matter, for us to come to any conclusion with respect to its efficiency. Mr. Leese, a very experienced vaccinator, had stated, some sessions ago, in that society, that he never knew a case of consecutive small-pox in a person in whose arm there were above four cicatrices from the previous vaccination. Had this been noticed by other practitioners? As secondary small-pox occurred to persons deeply pitted from the first attack, he did not think the test referred to was to be depended upon. The recent Vaccination Bill was a dead letter!

Dr. Chowne observed that, in the Small-pox Hospital, so great a dependence was placed upon the number of the cicatrices present, that the character of the consecutive disease was generally prognosticated from that circumstance alone.

Mr. Dendy believed that one vesicle, if it went through its proper stages, and produced a proper degree of constitutional disturbance, was as effective as twenty. It might be a presumption that such constitutional effect had taken place, if several cicatrices were present.

Mr. Procter observed, that when vaccination was first introduced, it was never usual to attempt to obtain more than a single vesicle. Consecutive small-pox was very rare for a long time after Jenner's plan was introduced. We did not appear to improve in vaccination. If the system were fully under the influence of the vaccine disease, it afforded the best criterion of the patient's safety. A friend of his had lately lost a child from erysipelatous inflammation consequent upon vaccination.

Dr. Alison related a case of consecutive small-pox, occurring in an infant three or four months old, before the crust of the vaccine vesicle had fallen from the arm.

Dr. Clutterbuck remarked, that enough had been said to show the evils which had been produced by the new Vaccination Bill. It would not only obstruct the progress of

vaccination, but injure our inquiries, by producing confusion and want of confidence in the statements which might be made by those inexperienced men, into whose hands the poor-law commissioners had placed the duties of vaccination.

MEDICAL CONFERENCE ON REFORM.

The first meeting of the delegates from the various medical associations took place at Exeter Hall, on Wednesday evening last. The following gentlemen were present:—From the *Provincial Medical and Surgical Association*—Dr. Forbes, Dr. Macartney, Dr. Cowan, Mr. Wickham.

North of England Association—Mr. Carter.

British Medical Association—Dr. Webster, Mr. Davidson, Dr. Marshall Hall, Mr. Evans, Dr. R. Dundas Thomson.

Cornwall Association—Mr. Grainger.

This being the first meeting, the attention of the members was occupied in preliminary matters.

Deputation to Messrs. Warburton and Hawes.

At the last meeting of council, it was deemed advisable that a deputation should wait upon the two members of Parliament who had taken such an interest in the affairs of the profession as to prepare Bills for its reform. Accordingly, having previously asked and obtained an hour for meeting Messrs. Warburton and Hawes, a deputation, consisting of Dr. Webster, R. Davidson, Esq., Dr. R. Dundas Thomson, waited upon these gentlemen at the House of Commons on Monday last, at four o'clock. Mr. Wakley, M.P., who, notwithstanding great indisposition, was at the House, was kind enough to join the deputation. The deputation stated, that the object of requesting an interview with these gentlemen, was to inform them that a meeting of delegates, appointed by various reforming bodies in the profession from different parts of the kingdom, was to take place on the Wednesday following, and to request that the Bills prepared by these gentlemen should not be brought into the House of Commons until the sense of the profession was taken on the subject of reform. Mr. Hawes, in the most candid manner, stated, that he had intended that day, had there been a house, to move for leave to bring in his Bill. He should, however, do so on the following day, his object being to have his Bill printed, and placed on the same footing with that of Mr. Warburton; he would then name a distant day for the second reading, and, in the mean time, be open to any suggestions from the profession, or to follow any course which might seem expedient for the benefit of the cause. He considered that this was due to the public and to the profession, that a copy of his Bill should be in their hands; the expense of those which had been already printed having been discharged by himself. The members who were present, including Joseph Hume, Esq., who accidentally came into the committee-room at the time, agreed that this course of proceeding was a proper one, especially as Mr. Hawes did not contemplate enumerating, at the first reading, any of the provisions of his Bill. Mr. Warburton stated, that as he found himself opposed by the general practitioners of England, in consequence of the omission in his Bill of a clause for the suppression of illegal practice, he should be glad that another Bill were produced containing such a clause, as he would rather that this question should be fought on the introduction of another Bill than on that of his own; he affirmed that he would give his decided opposition to any clause enjoining coercive measures. He considered that all that the State should do, was to place a stamp on a professional man, and distinguish him as a person qualified to practise the art of medicine; but further than this it should not go. The same principle had induced him to oppose the Copyright Bill. The deputation did not fail to urge upon him the necessity of attending to the opinions of the general practitioners, who, in reality, formed the great bulk of the profession, and who were the aggrieved parties; that the opinions of the members of the corporations, who were generally in the enjoyment of high practices to which they were introduced, by the interest which they acquired by their connection with the corporation, were merely those of one or two hundred self-elected persons who were not aggrieved by empiricism, and had therefore no sympathy with the *fifteen* or *twenty thousand* practitioners of England; and that it did not appear to them that any analogy existed between the existence or non-existence of copyright and that of human life. The deputation, having thanked the honourable members for the interest they had taken in the cause of medical reform, then withdrew.

TREATMENT OF PRURITUS ANI.

To the Editor of The Lancet.

Sir:—A gentleman, at one of the universities, became affected with this complaint, towards the latter part of his residence there. He was of full habit, and usually enjoyed excellent health; but from close application to his studies, his occupations were then necessarily sedentary. He described the irritation, itching, and pain, as very distressing, especially on being heated from exercise at night, and after sitting for any length of time, when it became excessive. He had occasional slight attacks of dys-

pepsia, and his bowels were habitually constipated, with great consistency of the evacuations—their discharge occasioning actual pain, which passed gradually into the unpleasant sense of pruritus. The main indications for treatment appeared to me to remove the excessive hardness of the fæces, to avoid the causes producing aggravation of symptoms, and to improve the general health, and especially the condition of the large intestines—to remove, in fact, the existing torpor. Secondly, as of minor importance, to soothe the existing irritation about the verge of the anus; since, on examination, slight excoriation and redness was found to exist.

Mild and occasional laxative* aperients were directed; warm and soothing enema, to dilute and break down the hardened fæces; frequent and regular exercise, without fatigue; the careful avoidance of long sitting, and especial attention to the quantity and quality of the diet. Two parts of the unguent hydrarg. nit. oxyd. to six of unguent cetacei, well mixed, were directed to be smeared occasionally around the anal verge; and all rough handling, by scratching, during the violence of the itching, or after evacuations, to be avoided as much as possible.

This gentleman, shortly afterwards, returned to a country life, and, by attention to these measures, completely recovered; but even now, on return of constipation, has also a return of pruritus. Had these means failed, I should have tried other astringents and stimulants, as unguent gallæ—with, or without admixture of hydrocyanic acid; and, as a final recourse, the permanent separation of the opposed surfaces, by some small, smooth, metallic instrument, confined in that situation.

EDWARD HOCKEN, M.D.
15, Featherstone-buildings,
January 13, 1841.

To the Editor of THE LANCET.

SIR:—I beg to offer a few remarks on the treatment of "Pruritus Ani." The complaint in question will generally be found to proceed from one of two causes; viz, from the irritation of ascarides in the rectum, or from a plethoric state of the hæmorrhoidal vessels: hence we have only to be correct in our diagnosis, to enable us to adopt an appropriate and successful mode of treatment. I have known several instances where people of florid complexions, and full habit of body, have, on exceeding their usual quantity of beer, had an immediate determination of blood to those vessels, followed by great heat and itching in the verge of the anus, which have speedily been removed on taking a mercurial dose and magnesian aperient. I would suggest, therefore, in your subscriber's case, that, should the symptoms arise from this cause (which I think probable), the patient should abstain from the use of malt liquor—which enriches the blood, and distends the vessels more than any other beverage: use warm ablution to the part daily, take a blue pill at night, and a magnesian aperient every morning, until the complaint be removed, which, under this plan, I doubt not, will speedily be effected. Should such not be the case, the French practice, of applying leeches to the anus, will be found very beneficial. I remain, Sir, your obedient servant,

WILLIAM MOSS.

Windsor, Jan. 25, 1841.

To the Editor of THE LANCET.

SIR:—For the space of three years, I was much troubled with pruritus ani; the itching being most violent during bed-time. From the moment I lay down the irritation commenced, and, though in some measure I could abstain from scratching whilst awake, the lacerated, and often bleeding, state of the anus in the morning, showed what violence must have been done to the part during sleep. Other remedies failing, I hit upon an expedient, which proved completely successful. Believing that the complaint was prevented from healing, by every fresh invasion of the nails, I tied up each hand, at bed-time, in a tight linen bag. These bags I continued to wear in bed for about two months, when I laid them aside, and, happily, have never again been obliged to resume them. Hoping this simple suggestion may be equally beneficial to others, I am your most obedient servant, S.

WALTHAMSTOW SPECIMEN OF VACCINATIONS
UNDER THE
POOR-LAW COMMISSIONERS' ACT.

To the Editor of THE LANCET.

SIR:—The subjoined correspondence was occasioned by a return of 39 cases of vaccination, returned to the board of guardians, by Mr. Alfred Evans, one of the contracting vaccinators for the parish of Walthamstow, the first week that he entered upon his contract, and the next week they were again returned *all successful*. An inquiry, I believe, was instituted by some members of the board into the validity of such returns, and it was found that in Wanstead, where this *itinerant vaccinator* had found his way, that the majority of these *successful cases* occurred in two or three families, every member of whom, whether vaccinated previously or

* Soap or oleaginous purgatives are the best.

not, he indiscriminately operated upon *with* "*his fresh matter*;"* and these are the cases reported to the board as successful cases of vaccination; and these are the cases presented to the board for the payment provided by the statute. I was requested by Mr. Brown, surgeon to the union, to examine the arm of a boy, named Gunn, who lives beside the church, at Walthamstow, whom Mr. Evans had vaccinated, and reported as one of his successful cases. This boy was about 13 years of age, and had been vaccinated by Mr. Brown nearly 13 years ago, for which vaccination he received the sum of seven shillings. This case, Mr. Brown informs me, has been entered in his own note-book as a *successful case of vaccination*, and still Mr. Evans considers him a proper subject for vaccination, and returns him as his first successful case; and, what is most strange, Mr. Evans never saw this boy from the time he introduced his "*fresh matter*" to the nineteenth day after, when the circumstances were brought before the notice of the board, and even then had not seen the boy, as his mother informed me; and, still, this "*fresh matter*" *vaccinator* has the effrontery of representing and returning to the board his list of thirty-nine cases, and all of them successful cases of vaccination. I may mention that the ages of these thirty-nine cases were mostly from 10 years to 24—ages at which a person would conclude that they had previously undergone vaccination. I should have mentioned, that on examining Gunn's arm, I found two old cicatrices in one arm, and one in the other, which satisfied my mind that he had at a remote period passed successfully through the vaccination, for, although the presence of a cicatrix does not protect a person from variola, or even from secondary vaccinia, and although the person retaining the vaccine cicatrix does not enjoy an immunity from the infection of variola, or vaccinia, still I should be very much disposed to consider that person who did not present the variolous or vaccine cicatrix not exempt from taking either disease, if brought at all under their separate influence; therefore I should say that any person whose arm presented the variolous or vaccine cicatrix, had at one time of his life passed successfully through either. The appearance of the crusts on Gunn's arm after the second vaccination with this *fresh matter*, which I witnessed on the sixteenth day after insertion, were flimsy, and the pustules appeared to have been abortive, presenting the aspect that a person acquainted with the features of primary and secondary vaccination would at once recognise and pronounce as modified cow-pox, or vaccinella; and this was the evidence that I adduced when I was summoned before the board of guardians upon the subject; and still, after all this, Mr. Evans is retained as one of the vaccinators for this parish. I now leave the case before the public, just observing, that the board of guardians, by showing lenity to an offender who gratuitously and intentionally violates the law of the land, is but discouraging the well-affected; and, as a member of the British Medical Association, I would strongly call its attention to these facts, and recommend the council of that association to investigate such a flagrant outrage. I have the honour to be, Sir, your most obedient,

R. L. PINCHING, Surgeon.

Walthamstow, Jan. 21, 1841.

To the Chairman of the Board of Guardians of the Westham Union, Stratford.

Sir:—May I take the liberty of addressing you, as chairman of the board of guardians of the Westham union, and respectfully inquire if the conduct of one of the contractors for vaccination in this parish, which came so prominently before the board on a late occasion, has been represented to the poor-law commissioners; and if any communication has taken place upon the subject with the board of guardians, I consider it desirable that the medical practitioners who attended the investigation may be favoured with a copy of such correspondence. I have the honour to be, Sir, your most obedient servant,

R. L. PINCHING.

Walthamstow, Dec. 24, 1840.

To Robert L. Pinching, Esq., Walthamstow.

Board-room, Stratford, Dec. 26.

Sir:—In reply to your note, received this morning, I beg to inform you that a very large board of guardians were unanimous in expressing their disapprobation of the conduct of the contracting vaccinator, whose case was brought before them. Yours, sincerely,

JOHN PARDOE.

To the Chairman of the Board of Guardians, Stratford.

Sir:—I have the honour to acknowledge the receipt of your note of the 26th instant, apprising me, that "a very large board of guardians were unanimous in expressing their disapprobation of the conduct of the contracting vaccinator, whose case was brought before them." As one of the medical practitioners who attended the investigation referred to, and one of the contracting vacci-

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* Mr. Evans, in a note of admiration at the bottom of the return of these thirty-nine cases, gratuitously advances as the reason why his cases had been so singularly successful, and fearing that the board of guardians might cancel the validity of such return, I suppose, inserts the following note (as far as I can recollect the words) "successful owing to using *fresh matter*."

nators for the parish of Walthamstow, may I respectfully beg a copy of the minutes of such proceedings, passing a vote of censure upon Mr. Alfred Evans, surgeon, &c., the above-named contracting vaccinator, for the false return made by him to the board of guardians; and may I ask, Whether he had anything to offer in justification for making such return?

May I also beg to be informed, if it is the intention of the board to allow the sum provided by the statute for each and every case returned in such report, and if they are to be registered upon the records of the parish as successful cases of vaccination. I have the honour to be, sir, your most obedient servant,

R. L. PINCHING.

P. S.—I shall also be glad to know if the board of guardians still continue to retain and recognise Mr. Evans as one of the contracting vaccinators for Walthamstow.

Walthamstow, Dec. 30, 1840.

Board-room, Stratford, Jan. 1, 1841.

Sir:—In reply to your letter, addressed to me as chairman of the board of guardians, I beg to say, that we consider the affair of Mr. Evans as matter entirely between the board and himself, and that we cannot in fairness furnish individuals with copies of our minutes on this or any other subject. Your obedient servant,

JOHN PARDOE, Chairman.

The Chairman of the Board of Guardians, Stratford.

Sir:—I beg very respectfully to tender my resignation, as one of the contracting vaccinators of the parish of Walthamstow, from this date. I have the honour to be, your most obedient servant,

R. L. PINCHING.

Jan. 7, 1841.

BRANDY AND SALT.

To the Editor of THE LANCET.

SIR:—It might serve to denude this coarse and unskilful compound of the reputation which its supposed novelty and inexplicable virtue are procuring it, with a portion of the public, if a simple statement of the *modus operandi* of its medicinal properties (such as they are) were submitted. It would then appear that, while the *principle* of this vaunted specific is just one of the most familiar in regular medicine, it is, at the same time, one of the most objectionable—one, which the intelligent practitioner rarely has recourse to, and which only ignorance, on the part of those who recommend it, as a general specific, or else a reckless and unprincipled desire to profit by popular delusion, could possibly bring into general use and favour.

My remarks are applicable to brandy and salt, solely as an internal remedy; and thus viewed, what are brandy and salt, and what is the secret of that efficiency and utility which they may be admitted to possess? Simply, that this compound is a *spirituous solution of a purgative*, than which union nothing is more ancient and stale in the compounding of drugs!! This boasted spirituous *tincture of salt* (for it is nothing more or less than this) differs in nothing from the well-known spirituous tinctures of senna, jalap, rhubarb, &c., except that *it* is the tincture of a mineral substance, while these last are of vegetable substances! But the *principle* of union is, in both cases, identical; namely, the allying of a substance that purges with another that acts as a cordial, and prevents griping, dispels flatulency, &c. So much, then, as to any novelty in the principle or nature of the remedy.

But two further remarks are to be made. With many ignorant or simple persons, the circumstance of so common a substance as domestic salt being of so much supposed efficacy and power, excites wonder, and appears to them something very new and uncommon. These persons ought to be made aware, that the selection of common or domestic salt, far from being judicious, is the contrary; since sulphate of magnesia, or Epsom salts, sulphate of soda, tartrate of soda, or Rochelle salts, would all be, not equally only, but more efficacious, and more easy in their action.

The second remark is, that the *principle* of union of two such substances as salt and brandy, although quite familiar in medicine, is not, in general, an eligible one; is one not often put in use by the physician, and propounded, as it is, by its inventor and partisans, as a form for *frequent* and *general* employment, is most hazardous and reprehensible. Saline drugs are appropriate in states of the stomach and bowels, in which brandy is most IN-appropriate, namely, in vascular, heated, tumefied, irritable states of the gastro-enteric mucous membrane. The combining of these two substances, therefore, is, in fact, and in some degree, to prescribe *incompatibles*.

It were desirable that the editors of public journals would diffuse the above easily-intelligible view of this charlatanic remedy, as thereby much mischief might be prevented, and much suffering, among the ignorant and the poor.

ROBERT DICK, M.D.

London, Jan. 26, 1841.

TREATMENT OF SCIATICA.

To the Editor of THE LANCET.

SIR:—At a meeting of the Medical Society of London, held on the 30th November, the proceedings of which are reported in your Number for Dec. 5th, Dr. Clutterbuck is reported to have said, "that he lately suffered from sciatica, and the treatment of his case had afforded a good illustration of the unsettled state of opinion with reference to the remedies to be employed in this disease," &c. &c.

It appears that a dozen *infallible curatives* failed to relieve him, and this furnished him with a dozen infallible proofs, that infallible remedies, specifics, and universal medicines, cure sciatica as well as other maladies,—only accidentally.

The late Dr. Armstrong was accustomed to quote, in his lectures, the following sentence, or something to the same effect:—"There is no virtue in medicine, but that which arises from its precise application." Appropriate remedies, applied at the right moment, are, in fact, the only real curatives. As the state of opinion, with reference to the remedies to be employed in this troublesome affection, is so unsettled, the following observations, on the nature and treatment of sciatica, may not, perhaps, be deemed unimportant.

Before a medical man commences the treatment of any disease, it is necessary, if he would treat it effectually and rationally, that he should have a clear conception of its nature, as well as a knowledge of the seat of the malady. The pathology of some affections is, however, necessarily obscure; first, because they are of a slight and transient nature, and leave no marks behind as evidence of their having existed; secondly, because, though often severely painful, they are never mortal; and, consequently, are rarely or never the subject of morbid anatomical investigation. Sciatica belongs to this class; though often severely painful and of long continuance, it is not a fatal disease, and, consequently, we are destitute of any precise or positive knowledge of the pathological condition of the sciatic nerve in this affection. The surgeon must endeavour, therefore, to discover the nature of the affection, by carefully observing the symptoms as they present themselves in the slight and severe forms of the disease, whether affecting the robust, the plethora, or the debilitated subject, and carefully marking the effects of the remedies employed in the diverse states of the affection, and with reference to the constitution and habit of the sufferers. What, then, are the symptoms usually observed in these cases? A person, after exposure to cold, sitting on the damp ground, or getting the feet and legs wet, is attacked with a gnawing pain, more or less severe, at the upper and back part of the thigh, sometimes extending downwards to the foot, with great tenderness along the course of the sciatic nerve, more particularly behind the trochanter major, the whole limb feels weak, numbed, heavy, and semi-paralysed. In its milder forms, the disease commences (without any apparent cause) with a slight degree of tenderness at the back of the thigh, which renders sitting uncomfortable; a tingling sensation is felt in the leg, and some pain and stiffness at the hip, especially after walking; the leg is at the same time cold. The conclusion at which I have arrived, respecting the nature of sciatica, after a careful consideration of its symptoms, and the effect of remedies upon it, is, that it is essentially an inflammatory affection; that the inflammation is subacute, or chronic, and that its seat is the neurilema and cellular tissue, entering into the composition of the nerve and uniting its fibrils. The plan of treatment I have adopted accords with this view of the nature of the disease, it is as follows:—

First, I endeavour to remove or reduce the inflammatory action of the affected part, by the use of antiphlogistic remedies, counter-irritants, &c.; and then to restore its tone by administering tonic medicines. The means I used to accomplish the former object are, the local abstraction of blood by leeches, (or cupping, when it can be borne,) purgative medicines, saline or others, according to the constitution of the patient; after these, one or more blisters, as may be deemed expedient, are applied; and after the removal of these, tonic medicines are prescribed. Amongst this class of medicines, those which I have found most effective are the sesqui-oxide of iron, quinine, and the liquor arsenicalis. For persons of a spare habit, the weak and ill-fed, the sesqui-oxide of iron will prove the most efficacious medium; whilst quinine and the liquor arsenicalis will be found more applicable to the robust and plethoric, after the abstraction of blood.

Should this communication be deemed fit to occupy the pages of THE LANCET, you will oblige by inserting it. Yours repectfully,

H. C. ROODS, M.R.C.S.

London, Dec., 1840.

P.S.—I omitted to state, that the dose I usually give of the ferro-sesquiopedum is ℥j, sometimes ℥ss, but rarely more.

ILLNESS OF SIR ASTLEY COOPER.

WE regret to have to announce the severe indisposition of Sir Astley Cooper, which is assuming a dropsical tendency. He is attended by Dr. Chambers and Dr. Bright.

SPECIMEN OF A PRESCRIBING CHEMIST.

TREATMENT OF HOOPING-COUGH.

To the Editor of THE LANCET.

SIR:—The injurious effects of the law as regards the regulation of chemists have been so frequent and palpable of late, that it behoves every medical man to record any instance which may fall under his observation. I was called in great haste, about a fortnight ago, to see the infant child of a respectable tradesman, who was said to be dying in a fit; I went immediately, and saw a child, about two years old, in a state of collapse, the surface of the body bedewed with a cold perspiration, no pulse could be felt, there was no appearance of convulsion. I saw a bottle lying on the table; and on inquiry found it contained two parts of antimony wine to one of laudanum: it had been administered, in divided doses, under the direction of a chemist, for three months past, for hooping-cough. The child had been so materially reduced by taking it, that, at last, it had accumulated in the system, and produced the result I have described.

The same chemist, upon the alarming symptoms commencing, had been called in; and there he stood, with a bottle of ipecacuanha wine in his hand, ready for business. I learned that he had actually given the child a teaspoonful of it, for the purpose, I suppose, of bringing off the antimony wine. The child was certainly in an alarming condition; but, by cordial stimulants, I succeeded in bringing it round. I frankly told the father that, had the child died, I should have considered it my duty to have expressed an opinion (evidently to his astonishment), that death was produced by the improper conduct of the chemist.

I refrain from mentioning the name of the chemist, as I consider the law to be as much or more in fault than himself. I am, Sir, your obedient servant,

CHARLES STAFF, Surgeon.

2, Allsop's-buildings,
Great Dover-street, Borough,
Jan. 12, 1841.

REGULAR QUACKS.

To the Editor of THE LANCET.

SIR:—Sir Benjamin Brodie, in his article on Medical Reform, may well remark that regular quackery is as prevalent as any other. The columns of the newspapers are not filled only with advertisements of "Holloway's Ointment," "Franks's Specific," or "Goss's Ægis of Life," but this kind of advertisement jumbles, cheek by jowl, with puffs from "regular" physicians and surgeons, men who have not *ostensibly* left the ranks of the profession, and, setting their brethren at defiance, have *boldly* taken up the cause of quackery; but men who, under the cover of their diplomas, their appointments to hospitals or dispensaries, carry on the war of the enemy with all the vigilance that the most illegitimate quack might desire.

It is the press, and the press only, that, under the present state of medical affairs, *can* give an efficient check to men of this stamp, who, however they may cheat the public, cannot gull the profession.

With these preliminary remarks, I beg to introduce to you a kind of itinerant doctor, who manages to keep his name pretty well before the public, by advertising his intention of becoming a candidate for one dispensary, returning thanks for his election to another, or graciously "retiring" from one institution to seek to gull the governors of another, in a distant part of the town; who, within the last three months, has advertised his resignation as physician of the Westminster Dispensary, thanks for votes of censure or of praise by the governors, his intention of being a candidate for the appointment of physician to the Belgrave and Chelsea Dispensary; and finishes, the other day, with returning thanks for the obtainment of the latter, in all the newspapers. Let the finishing touches of the gentleman's advertisement speak for themselves:—

"21a, Hill-street, Berkeley-square,
Jan. 7, 1841.

"Dr. Evans may be consulted at his house, 21a, Hill-street, as usual, every day, till twelve o'clock, except Tuesdays and Fridays, when he will leave home at half-past ten, for the Dispensary, Sloane-square.

"Dr. Evans also continues to prescribe in diseases of women and children."

After this, how can we condemn the Morisons and the Holloways, who do not pretend to be doctors in medicine, but who are proud of being called quacks? Obediently yours,

AN OBSERVER.

TO CORRESPONDENTS.

Investigator.—He is not; and, in the present state of the law, it would be dangerous to make the attempt. It is intended to afford relief on the subject in question, but when it may be obtained it is impossible to predict.

A. O. Z.—The indenture would do, if the bond involved the education of the apprentice in medicine. But the alteration of such an indenture as *A. O. Z.* describes would be a forgery.

Dr. Button's communication shall appear next week.

Communications have been received from *Reformator, Mr. West, Mr. Smethurst, Mr. Gillespie, Mr. Symes, Mr. Anson.*

A TABLE OF MORTALITY FOR THE METROPOLIS,

Showing the No. of Deaths from all Causes, Registered in the 5 Weeks, ending Saturday, Jan. 23, 1841.

Causes of Death.	Decemb. 20 to 26	Decemb. 27 to J. 2	January. 3 to 9	January. 10 to 16	January. 17 to 23	Weekly Av. 1838-40, (corrected.)
Small-Pox	59	102	86	55	96	36
Measles	36	30	27	20	14	24
Scarlatina	16	27	26	17	18	38
Hooping-Cough	29	39	27	43	36	29
Croup	8	10	3	6	10	7
Thrush	4	1	2	7	3	5
Diarrhœa	2	3	8	5	2	6
Dysentery	....	....	3	2	1	2
Cholera	....	....	....	....	....	1
Influenza	6	5	....	2	2	1
Typhus	22	29	30	35	18	46
Erysipelas	11	8	9	7	9	7
Syphilis	1	....	....	....	1	1
Hydrophobia	....	....	....	....	....	.1
TOTAL	194	254	227	199	200	204
Cephalitis	15	10	14	10	8	11
Hydrocephalus	31	30	23	35	26	34
Apoplexy	17	24	22	27	15	18
Paralysis	20	21	24	23	28	15
Convulsions	78	70	66	54	41	60
Epilepsy	6	8	5	5	5	4
Insanity	....	1	....	....	1	1
Delirium Tremens	....	2	3	1	1	1
Dis. of Brain, &c.	17	16	11	9	8	7
TOTAL	192	182	168	164	135	151
Quinsey	4	1	3	....	3	1
Bronchitis	19	35	35	28	38	9
Pleurisy	2	2	....	2	2	2
Pneumonia	123	166	126	143	124	78
Hydrothorax	2	8	4	13	4	5
Asthma	69	78	90	121	81	24
Consumption	123	177	117	155	137	141
Dis. of Lungs, &c.	17	20	18	35	33	12
TOTAL	359	487	393	497	422	266
Pericarditis	1	1	1	2	2	.6
Aneurism	....	....	2	1	1	.8
Dis. of Heart, &c.	23	27	33	19	13	17
TOTAL	24	28	36	22	16	18
Teething	19	20	28	17	22	17
Gastri—Enteritis	11	14	19	19	16	15
Peritonitis	2	....	....	2	....	2
Tabes Mesenterica	....	5	3	1	7	4
Ascites	....	2	....	....	....	1
Ulceration	1	1	3	2	1	1
Hernia	1	2	4	5	2	2
Colic or Ileus	2	2	3	7	2	1
Dis. of Stomach	8	6	6	8	6	4
Hepatitis	2	3	1	1	2	1
Jaundice	3	1	....	....	2	2
Dis. of Liver, &c.	9	5	5	7	8	7
TOTAL	58	61	72	69	68	60
Nephritis	....	1	....	1	1	.4
Diabetes	....	1	....	2	1	.3
Stone	....	....	2	....	....	.5
Stricture	....	....	1	1	....	.4
Dis. Kidneys, &c.	3	8	1	3	4	2.4
TOTAL	3	10	4	7	6	4

Causes of Death.	Decemb. 20 to 26	Decemb. 27 to J. 2	January. 3 to 9	January. 10 to 16	January. 17 to 23	Weekly Av. 1838-40, (corrected.)
Childbed	8	15	8	10	8	7
Ovarian Dropsy	....	....	....	....	1	.2
Dis. of Uterus, &c.	4	1	4	2	4	2
TOTAL	12	16	12	12	13	9
Rheumatism	6	1	4	1	1	3
Dis. of Joints, &c.	6	3	3	4	4	3
TOTAL	12	4	7	5	5	6
Ulcer	....	....	....	2	....	.4
Fistula	1	....	1	2	....	.4
Dis. of Skin, &c.	2	....	....	1	....	.3
TOTAL	3	....	1	5	....	1
Inflammation	14	8	3	8	3	12
Hæmorrhage	....	2	10	3	2	3
Dropsy	30	39	45	39	43	34
Abscess	5	3	4	1	4	4
Mortification	7	3	2	7	11	5
Scrofula	1	....	3	2	1	2
Carcinoma	9	7	10	5	1	7
Tumour	....	2	2	3	1	2
Gout	....	....	2	....	2	1
Atrophy	5	8	6	7	9	4
Debility	30	40	21	31	34	15
Malformations	2	....	....	4	1	1
Sudden Deaths	28	40	19	26	11	13
TOTAL	151	152	127	136	123	103
Old Age	90	135	110	111	113	71
Intemperance	1	....	....	....	1	.6
Privation	1	2	1	3	1	.4
Violent Deaths	37	39	28	28	19	24
TOTAL	39	41	29	31	21	25
Causes not Spec.	4	7	5	2	7	8
Deaths, all Causes	1141	1377	1191	1260	1129	926
No. of Week	51	52	1	2	3	....

1840—41.	Ages. 0 to 15	15 to 60	60 & upwards
Dec. 20th to 26th	521	351	267
„ 27th to Jan. 2nd	610	411	353
Jan. 3rd to 9th	495	363	329
„ 10th to 16th	489	439	332
„ 17th to 23rd	461	366	306
Weekly Average, 1838—40	438	314	171

TEMPERATURE	Highest.	Lowest.	Daily Mean.
Week ending Jan. 2	45°	24°	34°
„ Jan. 9	44	15	29
„ Jan. 16	39	22	34
„ Jan. 23	52	28	40

	Estimated Pop. 1840.	Dec. 20 to 26.	Dec. 27 to Jan. 2.	Jan. 3 to 9.	Jan. 10 to 16.	Jan. 17 to 23.	Weekly Av 1838-40
West Districts	304,921	146	224	165	195	158	120
North Districts	414,458	205	246	212	216	201	163
Central Districts	369,722	215	268	260	293	246	190
East Districts	411,634	254	248	267	280	246	211
South Districts	450,265	321	351	287	276	278	223
	1,955,000	1141	1377	1191	1260	1129	926